DOCUMENT RESUME

ED 405 762 HE 030 000

AUTHOR Green, Kenneth C.
TITLE Campus Computing, 1996. The Seventh National Survey of Desktop Computing and Information Technology in American Higher Education.
INSTITUTION Campus Computing, Encino, CA.
PUB DATE Dec 96
NOTE 38p.; For previous edition, see ED 394 383.
AVAILABLE FROM Campus Computing, P.O. Box 261242, Encino, CA 91426-1242 ($35 prepaid; quantity discounts).
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Colleges; *Computer Assisted Instruction; Computer Managed Instruction; Computer Software; *Computer Uses in Education; Educational Policy; Equipment Utilization; *Higher Education; *Information Technology; Information Utilization; Internet; *Microcomputers; National Surveys; Questionnaires; Tables (Data); Trend Analysis; Universities; Use Studies
IDENTIFIERS *Access to Computers

ABSTRACT

This report presents the findings of a June, 1996, survey of computing officials at 660 two- and four-year colleges and universities across the United States concerning the use of computer technology on college campuses. The survey found that instructional integration and user support emerged as the two most important information technology (IT) issues confronting institutions over the next several years. Less than half (43.4 percent) of colleges and universities indicated having a strategic plan for the role of IT in instruction and scholarship. It was also found that the academic computing budget represented a shrinking proportion of the total institutional expenditure on IT. In response, a growing number of institutions reported turning to user fees. Over two-thirds (67 percent) of all undergraduates had access to the Internet, up from 60 percent in 1995, according to respondents, and nearly three-fourths (73.3 percent) indicated that their institutions support the Windows 95 operating system. The bulk of the report consists of tables that detail the survey's findings. Three appendixes provide an explanation of the survey methodology, a copy of the survey questionnaire, and a list of participating institutions. (MDM)

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CAMPUS COMPUTING 1996

The Seventh National Survey of Desktop Computing and Information Technology in Higher Education

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CAMPUS COMPUTING, 1996

The Seventh National Survey of Desktop Computing and Information Technology in American Higher Education

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December, 1996

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THE CAMPUS COMPUTING PROJECT

Begun in 1990, the annual Campus Computing survey is the largest continuing study of campus planning, policies and procedures related to the use of desktop computers (personal computers and workstations) in American higher education.

The 1996 National Survey of Desktop Computing and Information Technology in American Higher Education was supported, in part, by grants from the following corporate sponsors: Adobe Systems, Apple Computer, Compaq Computer Corp., Dell Computer Corp., Delmar Publishers/ITP, Eastman Kodak Company, Education Securities, Inc., Follett Corp., Hewlett-Packard, IBM, Lotus Development Corp., Macromedia, McGraw-Hill, Microsoft Corp., Prentice Hall/Simon and Schuster, Silicon Graphics, Software Publishers Association, Sun Microsystems, and Symantec Corp.

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Past (out-of-print) editions of the annual Campus Computing Report (1990-1995) are available from the ERIC Clearinghouse Service on microfiche. For additional information about the Campus Computing Survey, see also the AskERIC WWW site sponsored by the United States Department of Education and the ERIC Clearinghouse on Science and Technology at Syracuse University (http://ericir.syr.edu/Projects/Campus_computing/index.html).

Suggested Citation Format: Green, Kenneth C., *Campus Computing 1996.* Encino, CA: Campus Computing, 1996.

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CAMPUS COMPUTING, 1996

The 1996 National Survey of Desktop Computing and Information Technology in American Higher Education

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CAMPUS COMPUTING, 1996

The 1996 National Survey of Desktop Computing and Information Technology in American in Higher Education

The 1996 National Survey of Desktop Computing in American Higher Education was conducted during Summer 1996 as one component of the Technology, Teaching and Scholarship Project.[1] The information presented in this report is based on data from 660 two- and four-year colleges and universities across the United States. The annual Campus Computing survey, now in its seventh year, is the largest continuing study of institutional planning for and the use of information technology in American higher education.

The survey results presented here summarize data from public and private universities, public and private four-year colleges, and from community colleges (i.e., public two-year institutions).[2] The survey respondents were individuals specifically responsible for and knowledgeable about the current direction of academic computing planning and policy implementation on their campuses.[3]

The 1996 surveys were mailed in June to the senior academic computing officer at more than 1,500 two- and four-year colleges and universities across the United States. Where it was not possible to identify a specific individual with an academic computing title, the survey was sent to the senior academic officer. (Additional information about the survey methodology is provided in Appendix A.)

The 1996 Survey Results

Instructional integration and user support emerge as the two most important information technology issues confronting American colleges and universities over the next two-three years, according to the 1996 Campus Computing Survey.

Just over one-fourth (27.3 percent) of the 660 institutional respondents to the 1996 Campus Computing Survey identify "assisting faculty integrate technology into instruction" as the "single most important" information technology issue at their institution in the coming years. Another fourth (24.1 percent) report that "providing adequate user support" is the top technology challenge confronting their campus. Still important but less frequently cited technology issues include "enhancing/expanding the campus network" (17.6 percent) and "financing the replacement of aging hardware and software" (17.4 percent).

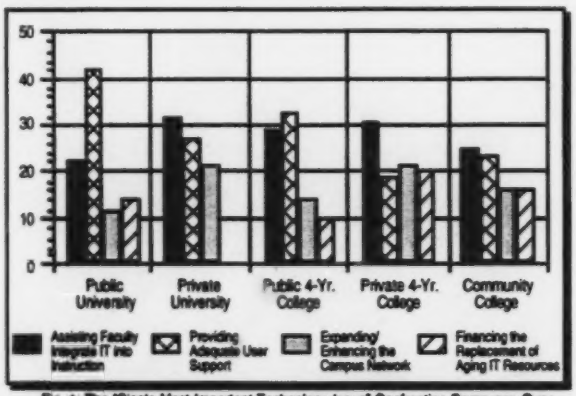

Fig. 1: The "Single Most Important Technology Issue" Confronting Campuses Over the Next Two-Three Years (percentage of institutions).

These data help confirm the transition of information technology from the unique to the ubiquitous: in all sectors of the economy: computers are increasing commin in homes, schools, offices. Consequently, colleges confront rising expectations from students across all disciplines and in all types of institutions that technology will be part of the learning and instructional experience. Moreover, ample evidence in the higher education environment confirms that infrastructure fosters innovation; beyond hardware, software, and computer networks, user support is also a core element of the campus technology infrastructure. Given rising demand for and expectations about technology, it is not surprising that this year's survey identifies the closely linked issues of instructional integration and user support as the key technology issues confronting American colleges and universities.

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[1]The 1996 National Survey of Desktop Computing in Higher Education was supported, in part, by grants by the following corporate sponsors: Adobe Systems, Apple Computer, Compaq Computer Corp., Dell Computer Corp., Delmar Publishers/ITP, Eastman Kodak Company, Education Securities, Inc., Follett Corp., Hewlett-Packard, IBM, Lotus Development Corp., Macromedia, McGraw-Hill, Microsoft Corp., Prentice Hall/Simon and Schuster, Silicon Graphics, Software Publishers Association, Sun Microsystems, and Symantec Corp.

[2]Several hundred private two-year colleges were including in the survey mailing. However, the low response rate from this group should not be viewed as being representative of the larger population of more than 250 private two-year colleges in the United States.

[3]The survey focuses on academic computing, i.e., the use of computing and information technology to support and enhance instruction and scholarship. The survey does not address the use of desktop computers in academic administration (e.g., budgeting, registration, financial management, student records).

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Financial and Strategic Planning

The 1996 survey reveals that less than half (43.4 percent) of American colleges and universities have a strategic plan identifying institutional goals, objectives, or implementation priorities for the role of information technology (IT) in instruction and scholarship. Moreover, as noted in past survey reports, few American colleges and universities have a financial plan to address the continuing problem of "acquiring and retiring" computing and IT resources.

As of fall 1996, just over one-fourth (28.1 percent) of the nation's colleges and universities report a budget model for amortizing and routinely replacing computers and software, up slightly from 22.0 percent in 1995. but a major gain from 15.9 percent in 1990. But even with these recent gains, the 1996 data indicate that the vast majority of colleges and universities (71.9 percent) continue to fund most of their equipment purchases and software upgrades with one-time budget allocations or special appropriations.

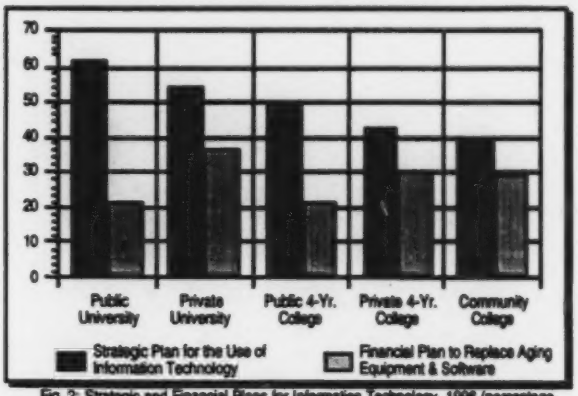

Fig. 2: Strategic and Financial Plans for Information Technology, 1996 (percentage of institutions).

Indeed, a decade into what some have called the "computer revolution" in higher education, it is striking that most campuses still operate without a strategic or financial plan for information technology. In this context, the 1996 survey data reflect the continuing problems colleges and universities have in developing viable plans to address their escalating technology needs. Rather than plan for the routine turnover of aging technology, the budget models employed by most compasses force institutions to find money rather than reserve funds.

The number of campuses with strategic and financial plans for technology will likely increase significantly over the next three years. External groups will push campuses to develop a strategic plan for technology: trustees, regional accrediting associations, and professional associations will require campus officials to explain their vision for information technology in the context of institutional mission and clientele. As part of the strategic plan, campuses will also have to develop detailed financial plans that provide for the timely replacement of technology resources that are increasingly important to students, faculty, and administrators.

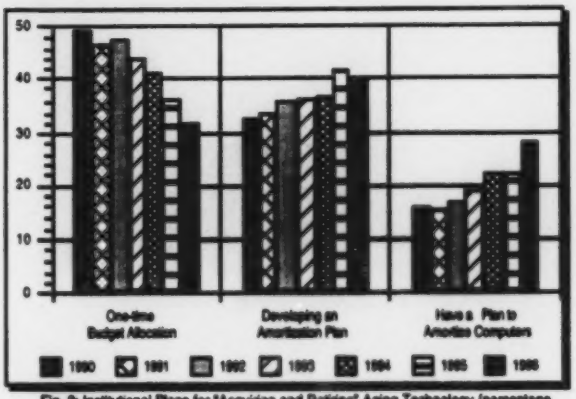

Fig. 3: Institutional Plans for "Acquiring and Retiring" Aging Technology (percentage of institutions).

Technology Spending

Not surprisingly, the academic computing budget represents a shrinking proportion of the total institutional expenditure on information technology. In some sectors, the academic computing budget mau account for less than 40 percent of total technology spending.

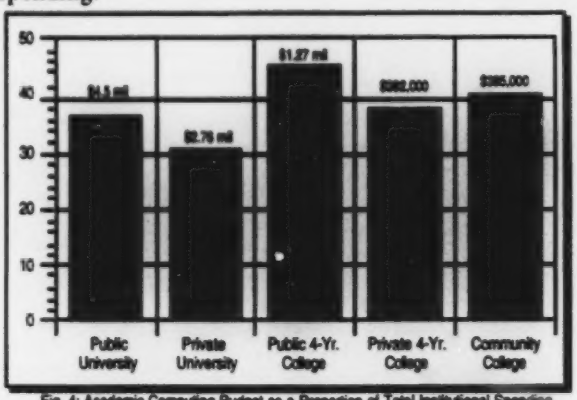

Fig. 4: Academic Computing Budget as a Proportion of Total Institutional Spending on Information Technology, 1996 (Numbers shown are mean dollars by campus type.)

These data, new in 1996, suggest that a growing portion of the dollars allocated to technology resources come from departments and operating units. Indeed, as academic programs invest in technology resources to support faculty and instruction, decisions about technology increasingly look like decisions about curriculum, and are based in academic/instruction units, rather than in central administration offices.

Mandatory User Fees

Growing numbers of colleges are turning to user fees as one way to manage the continuing costs of enhancing and upgrading technology resources for students. This year almost a third of all institutions (31.8 percent) impose a mandatory student technology

fee, up from 26.9 percent in 1995. Yet this number masks significant differences across sectors: in Fall 1996 more than half of the nation's public research universities and public four-year colleges report mandatory technology fees for their students. In contrast, less than a fifth of private universities and four-year colleges require a technology fee; most private institutions apparently prefer to incorporate technology charges into tuition. Community colleges fall in the middle: about one-third (31.9 percent) currently require a technology fee from their students.

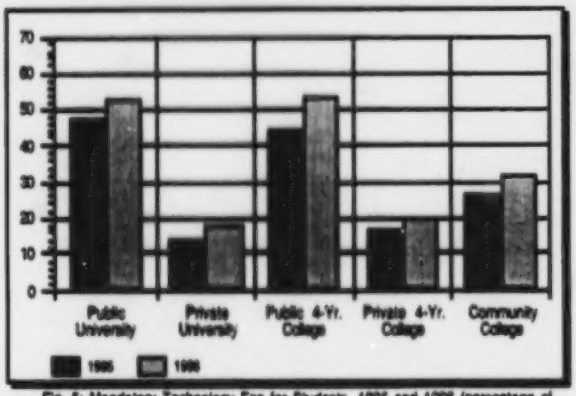

Fig. 5: Mandatory Technology Fee for Students, 1995 and 1996 (percentage of institutions).

Mandatory fees are often spent to expand and enhance technology resources and services directly accessible to students. Campuses try to spend this money in ways that students can see it: more and better campus computer labs and clusters, new equipment and software for existing public computer labs, and enhanced network and Internet access.

The challenge for many institutions that have mandatory students IT fees is to retain the institutional and departmental money required to support core infrastructure needs. Indeed, campuses that impose a student fee should use these funds to supplement, rather than replace, the institutional dollars budgeted for technology. The risk is for no net improvement in technology resources or infrastructure if the student fees begin to replace institutional dollars.

Campus Technology Infrastructure

Assessments of the campus technology infrastructure rose slightly between 1995 and 1996. Survey respondents generally give "acceptable" evaluations to some parts of their campus technology infrastructure, while noting other components need enhancement.

Asked about "computer networks and data communications," 44.6 respondents rate this component of their infrastructure as very good or excellent, up from 32.3 in 1995. Ratings of the telecommunications resources also rose this part year, from 29.3 to 36.1 percent indicating "very good" or excellent.

Video, which traditionally has meant cable services for students in dorms, is rated much lower: 14.3 percent of the 1996 respondents report that the technology infrastructure video at their institution is "very good" or "excellent," up slightly from 12.9 percent in 1995.

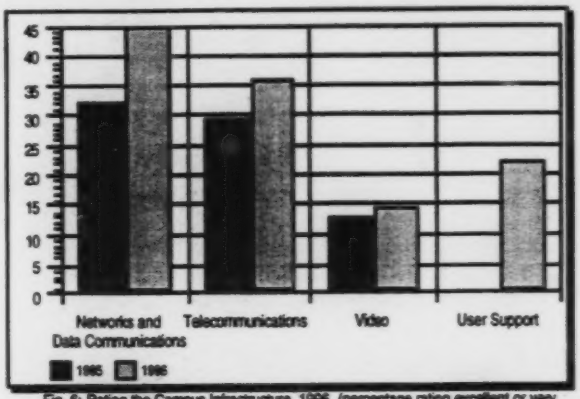

Fig. 6: Rating the Campus Infrastructure, 1996 (percentage rating excellent or very good on a scale score of 1-7; 1=poor and 7=excellent).

Perhaps not surprising, given other data reported here, less than a fourth (22.1 percent) of the 1996 survey respondents report that user support, another key element of the technology infrastructure, is "very good" or "excellent." (Comparable data for 1995 are not available.)

Student access to campus technology resources is also an important component of the technology infrastructure. As shown below in Figure 7, community colleges make a far larger proportion of the institutionally-owned computers available for student use than do research institutions. Part of the variance, of course, reflects both institutional mission (e.g., the research responsibilities of university faculty) as well as the level of individual student ownership, which is much higher in research universities and other highly selective institutions.

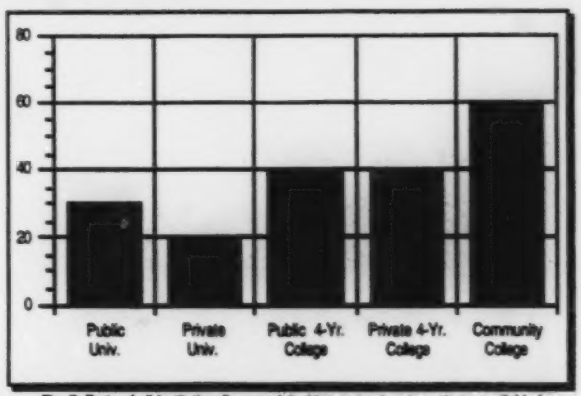

Fig. 7: Ratio of all institutionally-owned desktop computers to systems available for student use in public access computer labs and clusters (percentage).

But the proportion of "public access" systems in community colleges and public four-year colleges has been declining in recent years, reflecting the growing

role of technology in instruction and new institutional commitments to provide computers for faculty.

Faculty Recognition and Reward

Comparatively few institutions formally recognize or reward faculty efforts to integrate technology into instruction as part of the promotion and review process. The 1996 survey reveals that 54.6 percent of the nation's colleges have some type of instructional resource center intended to support the use of technology in instruction. Yet just an eighth (12.6 percent) have a formal program to recognize and reward technology efforts as a routine component of the review and promotion process.

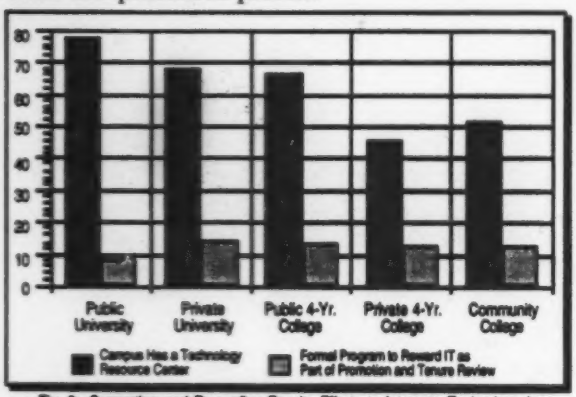

Fig. 8: Supporting and Rewarding Faculty Efforts to Integrate Technology into Instruction (percentage of institutions).

Review and promotion are the real test of an institutional commitment to the instructional integration of technology. Technology or instructional support centers and mini-grant programs intended to promote instructional development are important. But comparatively few campuses formally recognize and reward faculty efforts to enhance their syllabi and classroom activities with technology resources."

Campus conversations clearly indicate that faculty monitor the experience of their colleagues who were "early adopters." Failing to promote or to award tenure to faculty who invest time and effort into instructional integration sends a chilling message about the campus commitment to technology integration in instruction and scholarship.

Modest Gains in the Instructional Use of IT

In contrast to 1995, this year's survey points to modest rather than major gains in the proportion of college courses using various kinds of information technology resources. The percentage of college classes using electronic mail rose from 20.1 to 25.0 percent, compared to 8 percent in 1994; use of presentation handouts rose slightly to 28.4 percent from 25.7 percent in 1995 and 15.1 percent in 1994.

Not surprisingly, one instructional resource that, showed major gains was the percentage of college courses using materials from the WWW, up from a third, from 6.2 percent in 1995 to 9.2 percent in 1996.

But other kinds of technology resources showed little or no gains. For example, the percentage of courses using commercial courseware was almost unchanged between 1995 and 1996, at 18.5 percent, as was the use of computer-based simulations (at 14.4 percent of all classes).

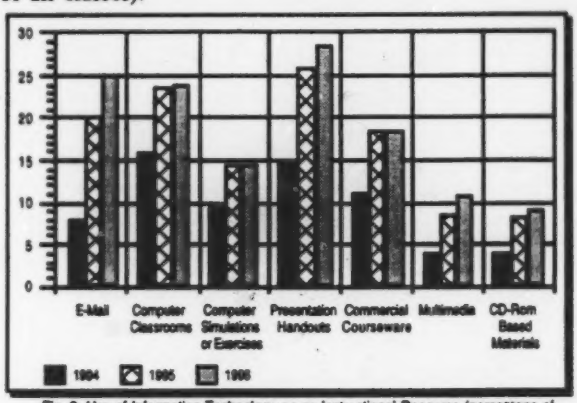

Fig. 9: Use of Information Technology as an Instructional Resource (percentage of courses).

These data suggest that what seems like slower growth may really be a the consolidation past gains. Additionally, user support plays a major role in helping to assist faculty update course content and resources. Consequently, what some have identified as a "user support crisis" — prompted by growing demands from students and faculty for assistance with the Internet, WWW, and Windows 95 applications — may have slowed the pace of IT integration into classroom activities between 1995 and 1996.

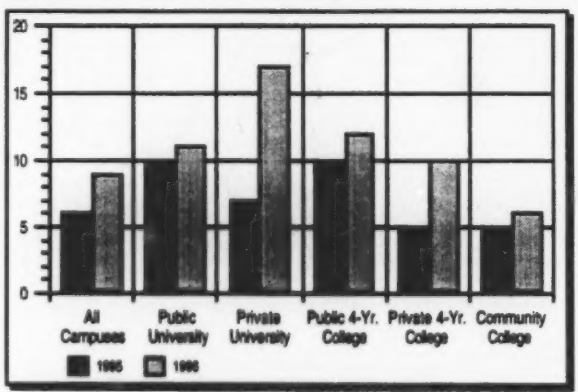

Fig. 10: Rising Use of the WWW as an Instructional Resource (percentage of courses).

The Internet and WWW

The 1996 survey reveals that two-thirds (67.0 percent) of all undergraduates have access to the Internet, up from 60.0 percent in 1995. Just three-fourths (76.5) percent of all faculty have Internet/WWW access, reflecting virtually no change from 1995.

Not surprisingly, the role of the Internet and WWW continues to expand among American colleges

and universities. Four-fifths (79.4 percent) of the campuses participating in the 1996 Campus Computing Survey have an institutional presence on the WWW, up from 55.2 percent in 1995. Almost a third (30.1 percent) of the campuses in this year's survey have a formal plan for the role of the Internet and WWW in their distance education initiatives, up from 12.5 percent last year. Well over half (56.8 percent) have a formal plan for using the Internet and WWW in off-campus promotion (admissions, alumni activities, etc.), compared to almost two-fifths (38.1 percent) in 1995.

Moving Toward Windows 95

After some caution following the August 1995 product launch, colleges and universities have begun to recommend and support Microsoft's Windows 95 operating system. Almost three-fourths (73.3 percent) of the campuses participating in the 1996 Campus Computing Survey report that they support Windows 95, up from less than a quarter (23.3 percent) in fall 1995. As in the corporate sector, the year-long transition to Windows 95 reflects institutional concerns about significant migration costs: the need for new software, faster and more powerful computers, and additional demand for user training and support.

The rising institutional support for Windows 95 has not, however, significantly diminished current campus support for Apple's Macintosh platform. Just over two-thirds (69.7 percent) of the campuses in the 1996 survey report they "recommend or support" the Macintosh, down slightly from 72.8 percent in 1995.

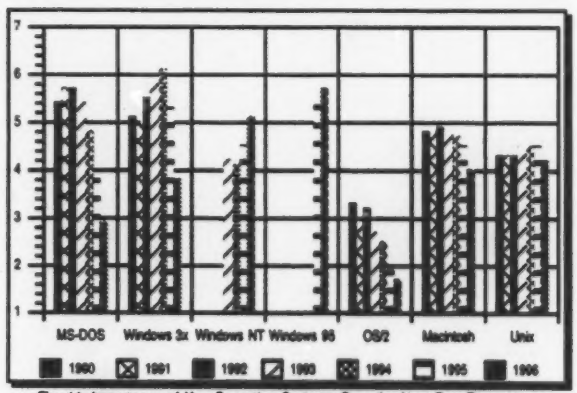

Fig. 11: Importance of Key Operating Systems Over the Next Two-Three Years, 1990-1996 (scale: 1=not important; 7=very important).

Looking forward, the 1996 data point to future gains for Windows 95 and possible decline for the Mac. Asked about the importance of Windows 95 in their technology planning over the next two-three years, campus respondents rate Windows 95 at 5.7 on a 7 point scale (1=not important; 7=very important), up from 5.4 in 1995. Windows NT rose to a scale score of 5.1, up from 4.5 last year. In contrast, respondents identified the "future importance" of the Macintosh at a scale score of 4.0 this year, down from 4.5 in fall 1995.

Java and Networked Computers

The technology industry's newest tools are generally well-received on campus. Even before the first products were shipping, respondents across all institutional sectors already identified Internet (or Network) computers as an important technology resource for their institutions over the next two-three years. And while the numbers are not quite as high, respondents also view Java (from Sun Microsystems) as being very important in their future technology plans and strategy.

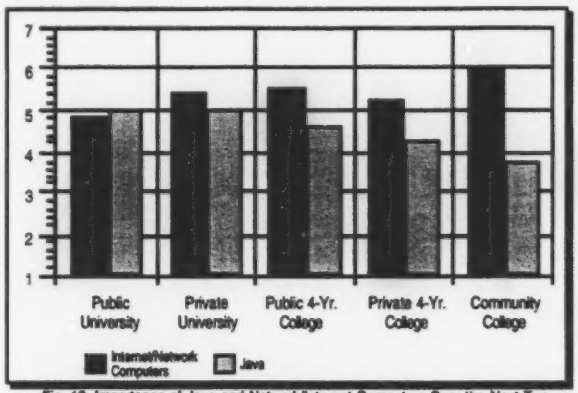

Fig. 12: Importance of Java and Network/Internet Computers Over the Next Two-Three Years (scale: 1=not important; 7=very important).

Copyright Policies

Finally, the 1996 survey data reveal that a growing number of institutions have formal (written) policies for students, faculty, and staff regarding the unauthorized duplication of computer software. In 1996, fully two-thirds (69.1 percent) of US colleges had formal policies, up from just 30 percent in 1990 and 57.7 percent in 1993.

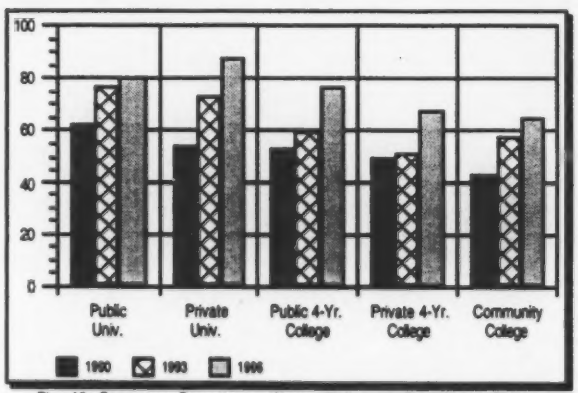

Fig. 13: Campuses Reporting a Written Policy on Copyrighted Software (percentages)

CAMPUS COMPUTING, 1996

GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTERS	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Number of Respondents	*660*	*50*	*28*	*110*	*218*	*225*	*29*
Do you have:							
a formal policy on computers							
for curriculum utilization?	27.1	22.0	14.3	33.9	27.8	22.9	48.3
for undergraduates?	30.2	28.0	17.9	42.6	32.9	21.1	48.1
for graduate students?	12.4	24.0	14.3	22.7	15.6	0.0	0.0
a computer instruction/competency requirement?	38.9	24.5	14.3	36.4	44.2	39.0	55.2
a special computer use fee or annual/term computer use charge?	36.9	54.0	21.4	59.3	25.6	36.0	28.6
a formal policy on confidentiality of data?	68.7	86.0	84.6	75.0	67.4	63.8	46.4
a formal policy regarding development of software by faculty or staff?	20.9	46.9	29.6	27.8	8.9	24.0	7.4
O/S recommended/supported*							
Macintosh	69.7	88.0	92.9	85.5	71.1	58.2	34.5
UNIX	53.0	86.0	92.9	68.2	52.3	38.7	17.2
Solaris	16.2	50.0	53.6	23.6	13.8	4.4	3.4
MS-DOS	80.6	74.0	75.0	84.5	76.1	84.9	82.8
Windows 3.x	87.0	88.0	85.7	89.1	84.9	88.4	82.8
Windows NT	40.2	60.0	67.9	41.8	33.9	39.6	24.1
Windows '95	73.3	84.0	96.4	69.1	69.7	74.7	65.5
OS/2 Warp	7.4	18.0	10.7	6.4	7.8	5.3	3.4
None recommended	2.1	8.0	3.6	0.0	1.8	1.8	3.4
Do you require or strongly recommend microcomputer ownership?							
No	76.8	56.0	53.6	80.9	68.8	89.3	82.8
Yes, for students in specific discplines/programs	10.8	30.0	14.3	8.2	12.8	5.3	10.3
Yes, for students in individual acad units	3.6	12.0	14.3	2.7	4.1	0.9	0.0
Yes, for all students	9.7	14.0	14.3	9.1	15.1	3.6	6.9
Are there recommended brands*							
Hardware							
For students?	24.1	16.7	63.0	29.0	31.6	12.7	13.8
For faculty?	51.2	32.7	77.8	61.7	55.6	44.5	35.7
For administrators./staff?	56.7	36.7	77.8	67.9	62.2	51.4	28.6
Software							
For students?	38.8	31.9	65.4	39.6	54.3	23.1	25.9
For faculty?	59.9	43.8	76.0	62.7	68.4	54.5	40.7
For administrators./staff?	68.2	45.8	76.0	73.8	77.1	63.7	44.4
What desktop computers recommended*							
Any Macintosh	40.6	48.0	78.6	59.1	43.6	24.9	20.7
68000-based systems	9.4	10.0	14.3	15.5	6.7	7.1	3.4
Power PC systems	36.4	44.0	71.4	56.4	39.9	19.1	20.7
Notebook computers	14.8	26.0	35.7	20.9	15.6	7.6	3.4
Any PC-compatible	70.5	58.0	92.9	81.8	73.4	65.8	41.4
Pentium systems	68.8	56.0	89.3	78.2	73.4	64.0	37.9
Pentium Pro systems	12.3	20.0	25.0	17.3	9.2	10.7	3.4
Power PC systems	7.1	14.0	17.9	10.9	5.5	4.0	6.9
Notebook computers	25.3	36.0	39.3	32.7	23.9	20.0	17.2
Any UNIX System	32.4	42.0	60.7	48.2	31.2	23.6	6.9
DEC	10.0	16.0	35.7	20.0	7.8	4.0	0.0
IBM	8.6	22.0	21.4	12.7	4.1	7.6	0.0
Sun	15.2	34.0	42.9	30.0	11.5	5.3	3.4
Other	2.9	2.0	3.6	2.7	3.2	3.1	0.0
HP	9.5	20.0	17.9	6.4	8.7	9.3	3.4
Silicon Graphics	5.6	18.0	25.0	9.1	4.1	0.9	0.0

Percentages by Campus Category

** Columns may total more than 100% since responses were not mutually exclusive*

CAMPUS COMPUTING, 1996

CURRENT MICROCOMPUTER AND DESKTOP COMPUTER FACILITIES	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Total number of inst-owned desktop computers used on campus today	1,127	5,174	3,746	1,358	453	595	108
Total number of inst-owned UNIX workstations on campus today	102	520	425	87	17	9	2
Percentage of inst-owned desktop computers/ workstations connected to campus network	70.8	81.6	84.0	77.8	70.7	65.4	54.4
Total number of personally-owned desktop computers used on campus today	588	2,886	2,724	781	334	64	40
Students per all desktop computers currently used on campus (Enrollment divided by reported total)	5.8	3.5	1.9	5.9	4.0	9.8	4.7
Students per institutionally-owned desktop computer or workstation (Enrollment divided by number of desktop computers)	7.4	5.0	3.2	7.5	6.2	11.0	6.9
Total number of computer labs and clusters and classrooms on campus this term?	46	91	69	52	23	52	35
Total number of desktop computers in all the labs?	325	938	523	439	133	318	77
Total number of Unix workstations in all the labs?	33	104	131	43	11	8	1
Students per institutionally-owned computers available in labs or clusters (Enrollment divided by lab totals)	19.4	23.2	15.6	18.6	20.3	18.1	12.2
Ratio of lab desktop computers to total institutionally-owned desktop computers	0.5	0.3	0.2	0.4	0.4	0.6	0.6
Proportion of students who have or own computers?	31.9	39.0	53.2	32.1	34.6	24.8	28.6
Proportion of faculty who have or own computers?	54.9	67.6	69.3	53.6	59.8	46.2	48.3
Proportion of administrators who have or own computers?	50.0	54.2	64.0	46.2	51.3	48.7	41.9
Proportion of students who have or own CD-ROMs?	29.3	28.0	39.0	24.2	34.7	25.9	23.6
Proportion of faculty who have or own CD-ROMs?	32.1	33.0	37.3	28.0	33.6	31.7	31.9
Proportion of administrators who have or own CD-ROMs?	28.7	28.6	31.9	24.2	26.9	32.6	26.9
Percentage of computers in all labs/ classrooms/clusters with CD-ROMs	26.4	25.9	42.0	26.5	28.3	23.8	13.8
Estimated no. desktop units purchased 1995-96:							
by students	344	1,140	1,006	403	151	118	47
by faculty	107	485	373	106	30	44	16
by admin	91	477	378	61	28	30	9
by labs	118	564	193	115	39	81	23
Estimated no. of desktop units purchased 1996-97:							
by students	388	1,271	906	510	192	145	68
by faculty	113	532	390	99	36	44	23
by admin	96	495	393	64	31	29	12
by labs	125	632	198	110	39	84	29

Means by Campus Category

CURRENT MICROCOMPUTER AND DESKTOP COMPUTER FACILITIES	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Percentage of classes using:							
computer-based classrooms or labs	24.0	17.5	18.6	18.7	20.4	31.4	34.2
computer-based simulations or exercises	14.4	14.3	13.7	13.5	13.0	17.0	12.1
presentation handouts	28.4	32.9	38.7	27.4	23.4	33.6	18.2
CD-ROM-based materials	8.9	6.9	7.8	6.9	10.1	9.5	8.4
electronic mail	25.0	32.8	47.7	30.6	28.0	15.5	12.2
commercial courseware	18.5	10.1	18.4	17.5	16.4	23.3	19.6
interactive data analysis and display	8.4	9.7	15.2	7.2	8.5	8.0	5.1
multimedia	10.8	10.6	12.6	11.4	10.1	11.4	7.7
Internet resources (from off-campus sources)	15.3	16.1	22.9	17.4	17.7	10.7	14.0
WWW pages for class materials and resources	9.2	11.1	16.6	11.9	9.8	6.3	2.8

Means by Campus Category

HARDWARE/SOFTWARE ACQUISITION POLICIES AND PROCEDURES	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Does your campus have a special resale agreement with hardware vendors?							
No resale program	54.3	20.0	14.3	40.0	51.4	72.2	92.9
No, but we sell computers on-campus	1.2	4.0	0.0	0.9	0.9	1.3	0.0
Campus bookstore	17.4	44.0	32.1	36.4	11.5	8.1	0.0
Campus center	15.4	20.0	50.0	11.8	22.5	6.7	0.0
Off-campus dealer	11.7	12.0	3.6	10.9	13.8	11.7	7.1
Are computer buyers required to purchase bundled software?	5.7	2.0	7.1	13.7	7.4	1.5	0.0
Are computer buyers encouraged to purchase software?	27.4	42.6	57.7	35.4	34.3	10.5	16.0
Does your campus have a special resale agreement with software vendors?							
No resale program	49.4	24.0	10.7	35.6	50.0	64.0	67.9
No, but we sell software on-campus	3.8	2.0	7.1	4.8	4.6	2.3	3.6
Campus bookstore	24.8	42.0	39.3	34.6	20.8	20.1	10.7
Campus center	11.9	30.0	39.3	7.7	14.4	4.2	7.1
Off-campus dealer	10.2	2.0	3.6	17.3	10.2	9.3	10.7
Does your campus have a written policy on copyrighted software/piracy?							
No	12.9	8.7	8.7	4.0	13.0	18.2	17.9
Under development	18.0	10.9	4.3	19.8	19.5	17.2	28.6
Yes	69.1	80.4	87.0	76.2	67.5	64.6	53.6

Percentages by Campus Category

How would you rate the "technology infrastructure" at your institution?							
computer networks & data communication	44.6	62.0	60.7	54.6	40.6	39.8	28.6
telecommunications & phone system	36.1	40.6	50.0	40.3	37.2	29.7	32.2
video (cable into offices, classrooms, dorms)	14.3	12.0	14.2	15.6	14.4	14.5	10.7
user support services	22.1	30.0	32.1	27.5	19.2	20.2	14.2

Percentage rating "excellent" (scale score of 6 or 7) by Campus Category
Scale: 1=poor; 7=excellent

ACADEMIC & INSTRUCTIONAL COMPUTING POLICIES & PROCEDURES	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
DOES YOUR CAMPUS HAVE/PROVIDE:							
Formal plan for integrating computers in curriculum?	31.1	22.0	21.4	21.8	29.0	40.1	39.3
Formal projects for developing instructional software/courseware?	40.9	70.0	85.2	55.5	30.6	34.5	17.9
Support for faculty developing instructional software/courseware?	52.7	74.0	67.9	67.3	38.1	55.7	32.1
Support for faculty developing research software?	29.6	48.0	46.4	47.7	26.7	19.5	10.7
Policy for rewarding courseware development?	18.0	24.5	28.6	20.9	13.4	19.8	7.1
Royalty-sharing program for faculty courseware?	13.8	53.1	35.7	17.4	2.8	12.7	3.6
Library of academic software for faculty review or evaluation?	25.0	42.9	39.3	28.4	19.3	23.1	25.0
Technology resource center focusing on instructional uses of information technology?	54.6	78.0	67.9	67.0	45.9	51.6	42.9
Agreement for duplication/distribution of software?	69.9	96.0	89.3	77.3	69.0	62.2	42.9
Formal plan for using Internet/WWW resources:							
in instruction?	30.1	26.0	39.3	28.2	27.3	33.2	32.1
in distance education?	17.5	20.0	14.3	22.7	11.6	21.6	7.4
in off-campus promotion?	56.8	66.0	78.6	61.8	61.3	46.9	42.9
Formal program to reward information tech- as part of routine faculty review/promotion	12.6	8.3	14.3	13.6	13.0	12.7	10.7
Strategic plan for use of information technology?							
no	22.7	16.3	25.0	16.4	21.6	27.9	25.0
yes	43.4	61.2	53.6	49.1	42.7	38.7	21.4
currently preparing plan	33.9	22.4	21.4	34.5	35.8	33.3	53.6

Percentages by Campus Category

COMPUTING FOR DISABLED STUDENTS	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Organizational arrangments for providing computer access for disabled users							
Centralized, through main/dept computer centers	19.0	12.0	15.4	18.2	18.3	21.6	21.4
Segmented, through special office	14.5	14.0	19.2	19.1	9.2	18.5	3.6
Mixed, through special office/computer centers	30.7	68.0	15.4	40.0	14.7	36.9	17.9
General, no formal policy/procedures	35.8	6.0	50.0	22.7	57.8	23.0	57.1
Campus currently reviewing computing needs of disabled students?							
no, no plans to do so	48.2	32.7	48.0	41.9	61.3	39.7	64.3
no, recently completed review	22.9	30.6	32.0	27.6	16.5	24.8	17.9
yes, review now underway	20.4	26.5	12.0	23.8	13.2	26.6	10.7
yes, review planned for 1996-97	8.5	10.2	8.0	6.7	9.0	8.9	7.1

Percentages by Campus Category

FUTURE ISSUES AFFECTING CAMPUS COMPUTING OVER NEXT 2-3 YEARS	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Operating systems:							
MS-DOS.	2.9	2.2	2.0	2.8	2.7	3.3	3.6
Windows 3.x	3.8	3.7	3.3	3.8	3.8	4.0	3.9
Windows/NT	5.1	5.4	5.9	5.1	5.1	4.9	4.4
Windows '95	5.7	5.8	5.7	5.5	5.5	5.8	5.6
OS/2 Warp	1.7	1.8	1.7	1.7	1.6	1.7	1.9
Macintosh.	4.0	5.1	4.7	4.5	4.3	3.1	2.8
Unix	4.2	5.6	5.6	4.8	4.2	3.5	3.0
Solaris	2.4	3.8	4.2	2.8	2.3	1.7	2.0
Hardware:							
Notebook computers	4.9	5.3	5.8	5.1	4.7	4.7	4.5
Pentium-based CPUs	6.2	6.2	6.4	6.2	6.1	6.3	6.3
Pentium-Pro-based CPUs	5.1	5.8	5.8	5.6	4.7	5.1	4.0
Intel P-7-based CPUs	4.1	4.9	4.9	4.3	3.9	4.2	3.3
Macintosh computers	4.0	5.2	4.6	4.4	4.2	3.3	2.8
Alpha-based (DEC) computers	3.0	3.7	4.0	3.7	3.1	2.4	2.0
Power PC (Apple/IBM) computers	3.6	4.8	4.7	4.2	3.9	2.8	2.9
Unix workstations	3.5	5.3	5.2	4.1	3.4	2.8	2.6
Sparc-based workstations	2.6	4.4	4.5	3.2	2.5	1.9	2.0
Network/Internet computers	5.5	4.8	5.4	5.5	5.3	5.9	5.7
Writable CD ROM	4.6	4.6	4.3	4.9	4.3	4.7	5.0
PCMCIA cards	4.4	4.5	5.2	4.6	4.3	4.3	4.1
"Smart" cards	4.0	4.3	4.6	4.2	3.8	4.0	3.2
Digital cameras	4.2	4.4	4.3	4.4	4.1	4.3	4.2
User support & service							
User support & training	6.4	6.6	6.6	6.5	6.3	6.3	5.9
Charging for previously free services	4.0	4.2	4.3	4.1	3.9	3.9	4.0
Upgrading aging hardware	6.2	6.2	6.1	6.1	6.1	6.3	6.3
Upgrading aging software.	6.1	6.2	6.0	5.9	6.0	6.2	6.3
Providing Internet/WWW training	6.1	6.2	6.0	6.1	6.1	6.2	6.1
Networking and groupware							
Merging data/telecomm networks.	5.2	5.6	5.3	5.3	4.9	5.4	5.3
Connect PC-LANS to campus networks	5.8	6.2	5.7	5.8	5.7	5.9	5.8
Access to intercampus networks.	5.8	6.2	5.8	6.0	5.6	6.0	5.3
Electronic mail	6.4	6.6	6.5	6.4	6.5	6.3	6.2
Network fax	4.2	4.4	4.3	4.2	4.0	4.3	4.6
Lotus Notes	2.7	3.3	2.8	2.7	2.5	2.6	3.1
Microsoft Exchange	3.2	3.2	3.5	3.4	3.0	3.3	3.6
Internet/WWW access	6.5	6.8	6.6	6.5	6.6	6.5	6.3
Netscape Navigator	6.1	6.3	6.2	6.1	6.1	6.0	5.7
Microsoft Internet Explorer	4.1	4.3	4.0	4.2	3.9	4.1	4.3
Java (Sun Microsystems)	4.2	5.0	5.0	4.6	4.2	3.8	3.5
Inferno (Lucent/AT&T)	2.3	2.6	2.9	2.4	2.2	2.1	2.2
ATM	3.9	5.2	5.0	4.3	3.7	3.6	2.3

Mean Importance by Campus Category
Scale from 1 "Not Important" to 7 "Very Important"

FUTURE ISSUES AFFECTING CAMPUS COMPUTING OVER NEXT 2-3 YEARS	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Resale and distribution							
Hardware resale contracts	3.2	3.8	4.9	3.8	3.5	2.4	3.0
Software resale contracts	3.2	4.1	5.0	3.7	3.4	2.4	3.0
Software site licensing	5.7	6.0	6.0	5.7	5.7	5.5	5.5
Content site licensing	4.6	5.0	5.4	4.8	4.6	4.4	4.5
Instructional Applications and Resources							
Developing instructional software	4.4	5.2	5.4	4.7	4.1	4.4	4.2
Using instructional software in classes	5.8	5.7	6.3	6.0	5.7	5.9	5.7
Using instructional software as class supplement	5.9	6.0	6.0	6.1	5.9	5.9	5.8
Computer-based classroom presentation	6.0	6.1	6.1	6.2	5.9	6.0	5.8
Internet resources for instruction	6.2	6.2	6.2	6.2	6.1	6.2	6.1
CD-ROM libraries	5.6	5.4	5.3	5.7	5.5	5.8	5.9
WWW pages for classes	5.5	6.0	6.1	5.9	5.5	5.3	4.6

Mean Importance by Campus Category
Scale from 1 "Not Important" to 7 "Very Important"

ADDRESSING BUDGET ISSUES BY:	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Reducing purchases of computer technology							
Doing already	15.3	17.4	7.7	21.0	11.4	14.5	32.1
Beginning 96-97	3.5	2.2	0.0	3.8	5.2	2.8	0.0
Reviewing for 96-97	10.0	6.5	7.7	4.8	11.4	11.7	14.3
Decided not to do	71.2	73.9	84.6	70.5	71.9	71.0	53.6
Charging fees to depts./service units							
Doing already	16.3	38.3	39.3	18.1	9.6	15.2	7.7
Beginning 96-97	4.0	2.1	0.0	9.5	3.8	2.4	3.8
Reviewing for 96-97	20.0	12.8	21.4	21.0	15.8	24.3	26.9
Decided not to do	59.7	46.8	39.3	51.4	70.8	58.1	61.5
Charging fees to individual users							
Doing already	21.9	37.8	35.7	24.0	18.6	19.6	15.4
Beginning 96-97	6.4	11.1	0.0	7.7	7.1	5.1	3.8
Reviewing for 96-97	21.2	17.8	17.9	21.2	19.0	23.8	26.9
Decided not to do	50.6	33.3	46.4	47.1	55.2	51.4	53.8
Requiring computer use fee for all students							
Doing already	31.8	54.2	17.9	53.3	19.8	31.9	15.4
Beginning 96-97	7.7	8.3	7.1	8.6	8.5	6.9	3.8
Reviewing for 96-97	20.5	14.6	14.3	18.1	18.4	23.6	38.5
Decided not to do	40.0	22.9	60.7	20.0	53.3	37.5	42.3
Exploring less expensive hardware options							
Doing already	64.1	63.8	53.8	74.8	60.6	65.4	48.1
Beginning 96-97	2.8	2.1	0.0	1.9	2.8	2.8	11.1
Reviewing for 96-97	13.0	4.3	11.5	12.1	14.6	13.4	18.5
Decided not to do	20.1	29.8	34.6	11.2	22.1	18.4	22.2
Exploring less expensive software options							
Doing already	64.1	63.8	64.0	75.5	60.6	65.1	40.7
Beginning 96-97	2.4	0.0	0.0	1.9	2.8	2.3	7.4
Reviewing for 96-97	13.6	8.5	12.0	14.2	14.1	12.6	25.9
Decided not to do	19.9	27.7	24.0	8.5	22.5	20.0	25.9
Leasing rather than buying hardware							
Doing already	10.0	15.6	18.5	8.9	11.0	6.6	14.8
Beginning 96-97	2.7	6.7	7.4	2.0	1.9	2.4	3.7
Reviewing for 96-97	21.1	17.8	18.5	30.7	17.2	20.9	25.9
Decided not to do	66.1	60.0	55.6	58.4	69.9	70.1	55.6

Percentages by Campus Category

CAMPUS COMPUTING, 1996

ADDRESSING BUDGET ISSUES BY:	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
More active recycling of older equipment							
Doing already	81.6	72.9	74.1	84.4	84.0	83.0	63.0
Beginning 96-97	4.8	12.5	7.4	2.8	3.3	4.6	11.1
Reviewing for 96-97	5.6	4.2	3.7	8.3	5.2	3.7	18.5
Decided not to do	7.9	10.4	14.8	4.6	7.5	8.7	7.4
Vendor Financing:							
Doing already	14.8	23.8	22.2	20.2	11.2	13.2	12.0
Beginning 96-97	2.2	2.4	7.4	2.0	2.9	0.5	4.0
Reviewing for 96-97	11.3	19.0	7.4	12.1	10.2	11.2	8.0
Decided not to do	71.8	54.8	63.0	65.7	75.6	75.1	76.0
Reducing hours in public access facilities							
Doing already	7.0	8.5	7.4	7.8	4.9	9.0	0.0
Beginning 96-97	1.1	2.1	0.0	1.0	1.0	1.0	3.7
Reviewing for 96-97	7.6	2.1	3.7	10.8	4.9	10.0	11.1
Decided not to do	84.3	87.2	88.9	80.4	89.2	80.0	85.2
Reducing services							
Doing already	16.9	23.4	15.4	20.6	14.6	16.4	15.4
Beginning 96-97	1.3	2.1	3.8	2.0	1.0	1.0	0.0
Reviewing for 96-97.	9.8	4.3	11.5	8.8	9.2	11.1	15.4
Decided not to do	72.0	70.2	69.2	68.6	75.2	71.5	69.2
Reorganizing operations							
Doing already	45.8	65.2	64.3	49.1	39.9	46.2	22.2
Beginning 96-97	7.7	8.7	0.0	10.2	7.9	5.8	18.5
Reviewing for 96-97	16.1	10.9	32.1	17.6	14.3	16.3	14.8
Decided not to do	30.3	15.2	3.6	23.1	37.9	31.7	44.4
Reducing staff:							
Doing already.	16.0	19.6	19.2	20.2	10.3	18.0	19.2
Beginning 96-97	1.6	2.2	0.0	1.0	2.0	1.5	3.8
Reviewing for 96-97.	5.6	4.3	7.7	4.8	4.9	5.8	11.5
Decided not to do	76.8	73.9	73.1	74.0	82.8	74.8	65.4
Using IT to reduce instructional costs							
Doing already.	33.3	43.9	54.2	40.0	20.6	40.5	15.4
Beginning 96-97	6.7	12.2	4.2	8.0	3.9	8.5	3.8
Reviewing for 96-97.	32.3	22.0	25.0	34.0	33.8	32.0	38.5
Decided not to do	27.7	22.0	16.7	18.0	41.7	19.0	42.3
Greater use of student assistants for user support							
Doing already.	70.4	83.3	88.9	77.1	69.2	65.0	55.6
Beginning 96-97	7.1	2.1	11.1	5.5	8.1	7.0	11.1
Reviewing for 96-97.	9.6	4.2	0.0	6.4	9.0	12.6	22.2
Decided not to do	12.9	10.4	0.0	11.0	13.7	15.4	11.1
Offloading Internet access to commercial providers							
Doing already.	14.5	29.2	22.2	14.3	9.3	14.3	23.1
Beginning 96-97	4.4	10.4	7.4	5.7	3.4	2.5	7.7
Reviewing for 96-97.	20.4	20.8	33.3	21.9	17.1	21.2	19.2
Decided not to do	60.7	39.6	37.0	58.1	70.2	62.1	50.0

Percentages by Campus Category

STRATEGIC PLANNING ISSUES OVER THE NEXT 2-3 YEARS	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Assessing benefits of existing investments in computing resources	5.5	5.6	5.6	5.4	5.5	5.5	5.4
Clarifying goals and campus plans for technology resources	6.1	6.2	6.1	6.1	6.1	6.1	5.9
Providing rewards for faculty to support technology curriculum integration	4.8	5.3	5.3	5.1	4.5	4.6	4.8
Allocating campus funds to support expanded services	5.5	5.9	5.9	5.6	5.5	5.4	5.2
Faculty concerns about the benefits of computing in the curriculum	5.1	5.0	4.8	5.4	4.9	5.2	5.4
Administrative concerns about benefits of computing in the curriculum	4.9	4.5	4.7	5.1	4.8	5.0	5.2
Developing/strengthening vendor relationships	4.5	4.4	5.1	4.5	4.5	4.5	4.3
Charging fees to students for desktop computer access	3.9	4.3	2.9	4.1	3.6	4.2	4.0
Establishing/maintaining campus-wide standards for hardware	5.6	5.1	5.7	5.5	5.6	5.8	5.5
Establishing/maintaining campus-wide standards for software	5.7	5.4	5.9	5.6	5.8	5.8	5.6
Integrating computing services with allied service departments	5.3	5.2	5.5	5.1	5.3	5.3	5.8
Expanding computer networking across the campus	6.2	6.0	6.0	6.1	6.2	6.2	6.2
Operating a computer resale program for students and faculty	3.0	3.6	4.0	2.9	3.3	2.4	2.9
Developing budget mechanisms to replace aging equipment on a routine basis	5.9	5.7	5.8	5.8	6.0	5.9	5.8
Moving applications from mainframe to other/smaller platforms	4.5	5.4	4.9	4.8	4.2	4.5	3.8
Using Internet/WWW resources in instruction	6.0	6.0	6.0	6.0	5.9	6.0	6.1
Using technology-based commerical curriculum products	4.9	4.9	5.0	4.7	4.7	5.1	5.2
Using I.T. resources to enhance our distance education program	5.0	5.6	4.3	5.5	4.1	5.7	4.1
Negotiating site license agreements with textbook publishers	4.3	4.4	4.6	4.2	4.1	4.6	4.4
Negotiating site license agreements with academic publishers	4.4	4.4	4.7	4.3	4.2	4.6	4.4
Sharing digital resources with other campuses/institutions	4.6	4.8	4.6	4.8	4.3	4.8	4.3

Mean Importance by Campus Category
Scale from 1 "Not Important" to 7 "Very Important"

CAMPUS COMPUTING, 1996

THIS YEAR'S COMPUTING BUDGET COMPARED TO LAST YEAR'S	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Total academic computing budget:							
Reduced > 5%.	7.6	6.0	3.6	8.3	6.5	9.7	3.6
Reduced 3-5%.	4.0	0.0	3.6	3.7	2.8	6.5	3.6
Reduced 1-3%	4.8	10.0	0.0	4.6	4.2	5.6	0.0
No change.	30.4	38.0	35.7	41.7	26.0	26.9	28.6
Increased 1-3%	15.8	12.0	28.6	16.7	15.8	14.8	14.3
Increased 3-5%	13.8	16.0	17.9	14.8	14.9	9.7	25.0
Increased > 5%	23.6	18.0	10.7	10.2	29.8	26.9	25.0
Purchases of desktop computers by academic computing units:							
Reduced > 5%	7.7	2.0	0.0	10.2	8.8	8.3	3.6
Reduced 3-5%.	3.5	2.0	0.0	1.9	1.9	6.9	3.6
Reduced 1-3%	5.4	8.0	10.7	4.6	2.3	7.8	3.6
No change	29.3	28.0	25.0	32.4	32.4	24.3	39.3
Increased 1-3%	16.8	18.0	32.1	18.5	14.8	16.5	10.7
Increased 3-5%	13.4	20.0	17.9	14.8	10.6	12.8	17.9
Increased > 5%	23.8	22.0	14.3	17.6	29.2	23.4	21.4
All institutional purchases of desktop computers:							
Reduced > 5%	7.7	2.0	0.0	9.2	7.9	9.7	3.6
Reduced 3-5%.	2.9	2.0	0.0	1.8	0.9	6.0	3.6
Reduced 1-3%	4.9	6.0	0.0	4.6	3.7	7.4	0.0
No change.	26.2	24.0	32.1	29.4	26.4	23.0	35.7
Increased 1-3%	17.9	22.0	32.1	17.4	19.0	14.7	14.3
Increased 3-5%	15.3	24.0	17.9	19.3	13.4	12.0	21.4
Increased > 5%	25.0	20.0	17.9	18.3	28.7	27.2	21.4
Did your budget for academic computing experience a mid-year cut/recission?	8.1	12.2	14.3	9.2	3.8	9.7	10.7
Mean percentage of cut	14.1	3.8	26.0	12.9	16.3	15.2	20.0

Percentages by Campus Category

Total academic computing budget for 1996-97 (mean expenditure in $1,000s)	980	4,552	2,767	1,272	382	385	159
Percent of budget allocated to: *							
hardware	34.7	21.8	20.4	30.3	36.5	39.6	40.0
software	15.5	11.1	11.8	14.2	15.9	16.6	21.0
personnel	37.3	47.0	48.1	42.6	32.8	36.2	28.2
content license	7.4	3.9	7.7	8.2	7.8	7.7	7.9
user support	18.8	25.9	24.7	20.7	18.1	15.7	14.8
network service support	16.3	15.6	20.4	16.2	17.3	15.1	14.6
Academic computing as a percentage of total institutional expenditures on academic computing and information technology (mean pct. expenditure)	40.6	37.1	31.6	45.2	41.2	54.0	54.3

Means by Campus Category

** Columns may total more than 100% since responses were not exclusive*

NETWORKING	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
How important are the following in discussions about networking on your campus?							
Connecting desktop systems to share departmental or workgroup files	5.5	5.8	5.6	5.5	5.5	5.5	5.4
Connecting desktop systems to share software resources	5.8	5.7	6.0	5.8	5.7	5.9	5.8
Supporting instructional labs and clusters	6.1	6.1	6.2	6.1	6.1	6.2	5.9
Intradepartmental mail systems on LANS	4.7	4.5	4.2	4.4	4.5	5.1	4.6
Campus-wide mail systems on a network	6.1	6.4	6.5	6.3	6.2	6.0	5.0
Linking PCs to larger computing systems	5.4	5.8	6.0	5.7	5.1	5.5	4.2
Linking PCs to campus library	5.7	5.9	6.0	5.8	5.8	5.6	5.5
Linking your campus with regional or national networks	5.8	6.5	6.3	6.0	5.7	5.6	5.6
Building a campus Gopher	2.6	2.5	2.1	2.6	2.4	2.9	3.3
Using Net Browsers for on-line resources	6.1	6.4	6.4	6.2	6.3	5.8	5.3
Creating WWW pages for dept use	5.6	6.0	6.1	6.1	5.6	5.3	4.8
WWW/Network access for all students	6.1	6.2	6.5	6.2	6.5	5.8	5.7
Network printing	5.5	5.4	5.6	5.7	5.6	5.4	5.5
Digital image libraries/archives	4.4	4.9	5.1	4.5	4.3	4.2	4.4

Mean Importance by Campus Category
Scale from 1 "Not Important" to 7 "Very Important"

Are network issues more or less important than last year?							
More important	73.4	62.0	75.0	69.4	78.8	72.4	72.4
Less important	1.7	4.0	0.0	4.6	0.9	0.9	0.0
About the same	25.0	34.0	25.0	25.9	20.3	26.7	27.6
Do you have a campus gopher?							
no	65.8	20.0	39.3	50.5	71.3	80.9	82.6
planning one for 1996-97	5.5	2.0	3.6	1.9	5.9	7.2	13.0
yes	28.8	78.0	57.1	47.7	22.8	12.0	4.3
Do you have a WWW Page?							
no	4.8	0.0	0.0	0.9	1.5	8.9	30.4
planning one for 1996-97	15.8	0.0	3.6	5.6	14.2	27.2	21.7
yes	79.4	100.0	96.4	93.5	84.3	63.8	47.8

Percentages by Campus Category

CAMPUS COMPUTING, 1996

NETWORKING	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Does your campus have a campus-wide network backbone?	84.8	100.0	100.0	94.4	79.6	84.2	51.7
What is the primary medium for your campus backbone?							
Fiber	80.9	94.0	89.3	88.3	81.2	74.5	52.9
ISDN	0.2	0.0	0.0	1.0	0.0	0.0	0.0
Ethernet/Coax	11.4	4.0	7.1	6.8	12.4	13.8	29.4
Twisted Pair.	6.4	2.0	0.0	2.9	5.9	10.2	11.8
Other	1.2	0.0	3.6	1.0	0.5	1.5	5.9
What facilities/departments on your campus have access to the campus backbone?							
Office/Labs/Facilities							
Central administration	84.4	98.0	100.0	90.9	80.3	84.4	51.7
Student services	79.5	92.0	92.9	85.5	73.9	82.2	44.8
Development	72.1	92.0	89.3	79.1	75.2	63.6	37.9
Budget/Financial offices	81.2	100.0	96.4	88.2	76.6	80.4	48.3
Public access computer labs	71.1	98.0	100.0	86.4	71.6	58.2	34.5
Departmental computer labs	72.6	98.0	96.4	84.5	67.9	68.0	31.0
Student dormatories	40.3	76.0	89.3	52.7	51.4	13.3	10.3
Bookstore	56.7	74.0	64.3	57.3	48.2	63.6	27.6
Registrar	81.7	98.0	96.4	90.0	76.6	81.3	48.3
Academic Departments/Units							
Biological & physical sciences	74.7	100.0	100.0	87.3	70.6	69.8	27.6
Business	75.6	98.0	92.9	88.2	67.9	74.2	41.4
Education	67.1	98.0	85.7	85.5	68.8	52.9	24.1
Engineering	50.2	88.0	89.3	63.6	35.8	49.3	10.3
Fine & performing arts	62.1	88.0	82.1	71.8	61.0	55.1	24.1
Humanities	71.2	92.0	92.9	81.8	67.4	67.6	31.0
Social science	71.1	96.0	92.9	80.9	68.3	66.2	27.6
Main library/library system	80.6	100.0	100.0	89.1	76.1	79.6	37.9
Occupational programs	51.5	72.0	57.1	56.4	37.2	63.6	6.9
Does campus have access to the Internet?	94.4	100.0	100.0	100.0	93.1	94.5	69.0
Who has access to Internet?							
Undergraduate students	67.0	82.0	75.0	81.8	70.6	56.4	31.0
Graduate students	33.2	80.0	71.4	60.0	39.9	2.2	3.4
Faculty	76.5	82.0	71.4	84.5	77.1	74.7	51.7
Administrators	76.1	82.0	71.4	84.5	75.2	74.7	55.2
Staff	72.9	82.0	71.4	83.6	71.6	70.2	48.3
Does campus charge fees for Internet access?	7.4	12.0	7.1	6.5	5.9	8.1	9.1
Who is charged for E-mail/Internet access?							
Undergraduate students	9.1	10.0	7.1	8.2	7.8	10.7	10.3
Graduate students	3.6	8.0	7.1	4.5	6.0	0.0	0.0
Faculty	2.1	0.0	3.6	1.8	2.8	1.8	3.4
Administrators	2.1	0.0	3.6	1.8	2.8	1.8	3.4
Staff	1.7	0.0	3.6	1.8	2.3	0.9	3.4

Percentages by Campus Category

CAMPUS COMPUTING, 1996

ORGANIZATION OF CAMPUS COMPUTING AND TECHNOLOGY UNITS	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Campus is part of a multicampus system with shared computing resources	40.9	52.0	10.7	44.9	21.2	63.0	17.2
Academic and administrative computing on my campus are:							
Separate units	48.0	36.0	46.4	38.9	50.0	51.6	63.0
A single unit	52.0	64.0	53.6	61.1	50.0	48.4	37.0
Campus computing reorganized in the past two years							
Academic computing	42.6	40.8	50.0	41.1	42.1	41.5	57.1
Administrative computing	39.3	44.0	40.7	34.3	37.0	41.3	50.0
Anticipate reorganization of campus computing in next two years							
Academic computing	39.8	50.0	42.3	45.2	34.1	38.8	50.0
Administrative computing	38.2	59.2	51.9	41.9	30.4	35.8	50.0
Head of computing unit reports to:							
Academic computing							
President.	13.6	10.9	0.0	7.5	10.2	21.3	19.2
Provost	35.6	39.1	33.3	36.6	46.9	24.6	30.8
Vice president	27.9	47.8	63.0	39.8	22.4	18.8	26.9
Dean	22.9	2.2	3.7	16.1	20.4	35.3	23.1
Administrative computing							
President.	18.6	10.6	3.8	8.2	15.7	28.6	26.9
Provost	16.3	21.3	15.4	21.6	20.8	9.5	7.7
Vice president	52.9	66.0	80.8	61.9	58.4	36.2	61.5
Dean	12.3	2.1	0.0	8.2	5.1	25.7	3.8
Level of involvement of our chief academic officer in instructional technology							
Not interested-involved	3.0	4.0	3.6	1.9	4.7	1.9	0.0
Interested	19.6	22.0	25.0	22.4	17.3	20.6	10.3
Somewhat involved	28.7	38.0	35.7	25.2	29.4	26.6	27.6
Directly involved	48.8	36.0	35.7	50.5	48.6	50.9	62.1
How does your campus deal with the "life cycle" issues of purchasing and replacing desktop computers?							
One-time allocation	32.1	32.0	32.1	39.8	27.1	32.3	40.7
Developing a plan	39.8	46.0	32.1	38.0	43.0	38.2	29.6
Have Plan	28.1	22.0	35.7	22.2	29.9	29.5	29.6

Percentages by Campus Category

PREPARATION FOR USE OF COMPUTERS IN INSTRUCTION & SCHOLARSHIP	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
How well does institution prepare students for technology skills over next decade?							
in biological & physical sciences?	3.4	3.6	4.0	3.5	3.5	3.2	2.5
in business?	3.8	3.8	4.2	3.9	3.6	3.8	4.0
in education?	3.3	3.4	3.5	3.5	3.3	3.2	3.0
in engineering?	3.6	4.3	4.4	3.9	3.4	3.5	2.3
in fine & performing arts?	3.0	3.2	3.1	3.1	3.0	2.9	2.8
in humanities?.	3.0	3.0	3.2	3.1	3.0	2.9	2.6
in social science?	3.1	3.3	3.4	3.3	3.1	2.9	3.0
in occupational programs?	3.6	3.5	3.2	3.4	3.3	3.8	3.5
Faculty preparation for instruction in:							
in biological & physical sciences?	3.4	3.6	3.6	3.5	3.5	3.3	2.7
in business?	3.7	3.6	3.8	3.6	3.6	3.7	4.2
in education?	3.1	3.4	3.2	3.2	3.1	2.9	3.0
in engineering?	3.6	4.0	4.1	3.8	3.4	3.5	2.7
in fine & performing arts?	2.8	3.0	2.9	2.9	2.8	2.8	2.8
in humanities?.	2.8	2.9	3.0	2.9	2.8	2.7	2.8
in social science?	2.9	3.2	3.3	3.0	3.0	2.8	2.7
in occupational programs?	3.4	3.2	3.1	3.2	3.0	3.6	3.7
Faculty preparation for scholarship in:							
in biological & physical sciences?	3.4	3.9	4.1	3.4	3.5	2.9	2.9
in business?	3.3	3.8	4.1	3.5	3.3	2.8	3.5
in education?	2.9	3.3	3.6	3.0	2.9	2.5	2.8
in engineering?	3.3	4.2	4.5	3.5	3.2	2.8	2.8
in fine & performing arts?	2.7	3.0	3.2	2.7	2.7	2.5	2.6
in humanities?.	2.8	3.0	3.4	2.8	2.8	2.6	2.7
in social science?	2.9	3.4	3.7	3.0	3.0	2.5	2.6
in occupational programs?	2.9	3.3	3.5	2.9	2.9	2.8	3.3
Faculty preparation in Internet/WWW							
in biological & physical sciences?	3.2	3.4	3.7	3.3	3.3	2.9	2.2
in business?	3.2	3.6	3.7	3.3	3.2	3.1	3.3
in education?	2.9	3.1	3.4	3.1	2.9	2.7	2.6
in engineering?	3.1	3.8	4.0	3.2	3.1	2.9	2.3
in fine & performing arts?	2.7	2.7	3.1	2.8	2.7	2.6	2.4
in humanities?.	2.8	2.8	3.4	2.8	2.8	2.6	2.3
in social science?	2.8	3.0	3.4	3.0	2.9	2.6	2.4
in occupational programs?	2.9	3.0	3.3	2.8	2.8	2.9	2.8

Mean Preparation by Campus Category
Scale from 1 "Poor" to 5 "Excellent"

CAMPUS COMPUTING, 1996

USES OF COMPUTER TECHNOLOGY	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
Faculty believe technology can enhance classes and learning	3.0	2.9	3.0	3.0	3.0	3.0	3.0
Faculty have unreasonable expectations about user support services	2.7	3.0	2.9	2.8	2.6	2.7	2.5
My president has serious questions the amout of money we spend to support computing and information technology	2.3	2.1	2.5	2.3	2.3	2.3	2.2
Technology has enhanced instruction	2.8	2.8	2.8	2.8	2.8	2.9	2.7
CD-ROMs will be an important source for content/instruct. resources over next 2-3 years	3.0	2.9	2.6	2.9	2.9	3.1	3.3
Internet/WWW will be an important source for content/instruct. resources over the next 2-3 years	3.5	3.6	3.5	3.4	3.5	3.4	3.3

Means by Campus Category
Scale from 1 "Strongly Disagree" to 4 "Strongly Agree"

USES OF COMPUTER TECHNOLOGY	All Insts.	Universities		Four-Yr. Colleges		Two-Yr. Colleges	
		Public	Private	Public	Private	Public	Private
The single most important I.T. issue at my institution over the next 2-3 years							
Providing universal access to the Internet	5.8	2.0	3.6	1.8	6.9	7.1	10.3
Providing adequate user support	24.1	42.0	28.6	32.7	18.8	23.1	3.4
Assisting faculty to integrate technology into instruction	27.3	22.0	32.1	29.1	30.3	24.9	20.7
Financing replacement of aging hardware/software	17.4	14.0	0.0	10.0	19.3	21.3	24.1
Expanding/enhancing campus network	17.6	12.0	21.4	13.6	20.6	16.0	27.6
Licensing (digital) content from publishers	0.3	0.0	3.6	0.0	0.5	0.0	0.0
Using I.T. effectively in distance education	4.1	4.0	3.6	4.5	2.8	5.8	0.0
Restructuring/reorganizing I.T. service units	3.5	2.0	7.1	4.5	3.7	2.2	6.9

Percentages by Campus Category

APPENDIX A — SURVEY METHODOLOGY

The 1996 National Survey of Desktop Computing in Higher Education was designed to collect information about campus planning, policies, and procedures affecting the use of desktop computers (i.e., personal computers and workstations) from colleges and universities in the United States (including Alaska and Hawaii).

The 1996 questionnaire was mailed to a representative sample of some 1,500 two- and four-year US colleges and universities in June, 1996. The sampling design focused on two- and four-year colleges and universities, omitting the small branch campuses of multi-campus districts and some very small private two- and four-year college (i.e., institutions enrolling under 200 students).* Proprietary schools were also omitted from the survey sample.

Questionnaires were mailed to the institution's chief academic computing officer. In those instances where it was not possible to identify, by name, and individual responsible for academic or administrative computing, the survey was mailed to the chief academic officer of the institution.

A second wave of surveys were mailed to non-responding institutions late in August, 1995. A total of 660 institutions completed and usable questionnaires were received by October 1, 1996, the closing date for data analysis. (Another 30 surveys were were received after the cut-off date; these documents are not included in the data presented in this report.) The number of colleges and universities represented in the 1996 survey report, by type of institution, are shown below.

Public Research Universities	50
Private Research Universities	28
Public Four-Year Colleges	110
Private Four-Year Colleges	218
Public Two-Year Colleges	225
Private Two-Year Colleges	29

*Data from the US Department of Education reveal that 10.2 percent (363) of the nation's 3,546 two- and four-year colleges and universities enroll under 200 students. These institutions account for some 39,000 (0.3 pct.) of the nation's 14.486 million college students. In contrast, the 408 colleges and universities that enroll 10,000 or more students represent just 11.5 of the total number of US degree-granting institutions yet account for 51.1 percent of total enrollment., some 7.4 million students. (source: *Digest of Education Statistics*, US Department of Education, 1995, p. 216.)

Appendix B

CAMPUS COMPUTING, 1996

THE NATIONAL SURVEY OF INFORMATION TECHNOLOGY IN HIGHER EDUCATION

Dear Colleague:

This is the seventh annual survey on desktop computing. It is part of a national project focused on campus policies, plans, and procedures affecting academic computing in two- and four-year colleges and universities. Your responses will contribute to a better understanding of the ways campuses across the country are planning for and using information technology.

Please take a few minutes to complete this questionnaire. All responses will be treated in a confidential manner.

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MAILING LABEL

Please attach a business card with the correct name, title, and address of survey respondent. Updated addresses will be used to send you a copy of the survey results.

Please respond to all questions based on institutional policies, i.e., policies that apply broadly to students, faculty, administrators and staff in all units of your institution.

A. GENERAL CAMPUS POLICIES ABOUT DESKTOP COMPUTING

1. Does your campus have a formal policy promoting or mandating computers/computing resources for
   curriculum utilization? ① no ② yes
   undergraduates? ① no ② yes
   graduate students? ① no ② yes

2. Does your institution have a *computer instruction* or *computer competency* requirement for all undergraduates?
   ① no ② yes

3. Does your institution have a special computer use fee or annual/term computer use charge for all students?
   ① no ② yes

4. Does your campus have a formal policy about the *confidentiality of computer data?*
   ① no ② yes

5. Does your campus have a formal policy regarding the *development of software* by faculty and staff?
   ① no ② yes

6. Please check the *Operating Systems/Interfaces* recommended or supported by your institution:
   ❑ Macintosh ❑ MS-DOS ❑ Windows '95
   ❑ UNIX ❑ Windows 3.x ❑ OS/2 Warp
   ❑ Solaris ❑ Windows NT ❑ *None* (My campus does not recommend a specific operating system or interface.)

7. Does your institution *require* or *strongly recommend* microcomputer ownership? *(please check all that apply)*
   ❑ no
   ❑ yes, for students in specific disciplines or programs
   ❑ yes, for students in individual academic units or schools
   ❑ yes, for all students

8. Does your institution (or individual units or programs) specifically recommend a particular brand or products for

	Hardware	Software
students?	① no ② yes	① no ② yes
faculty?	① no ② yes	① no ② yes
administrators/staff?	① no ② yes	① no ② yes

If you answered "yes" to any part of #8 please go on to #9; otherwise, please go on to #10.

9. Please check the brand(s)/kinds(s) of *desktop* computer system(s) generally recommended by your institution:

Apple/Macintosh	Intel•Windows•OS/2 Compatibles	UNIX Systems
❑ 68000-based systems	❑ Pentium systems	❑ Digital (DEC) ❑ HP
❑ Power PC systems	❑ Pentium Pro systems	❑ IBM ❑ Silicon Graphics
❑ Notebook computers	❑ Power PC systems	❑ Sun
	❑ Notebook computers	❑ Other? _____

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please go on to the next page ➨

B. Hardware and Software Acquisition Policies and Procedures

10. Does your institution have a special pricing or resale agreement with one or more *hardware* vendors?
    ① no, we do not have any kind of computer resale program.
    ② no, we do not have a special discount program although we do sell computers through an on-campus facility.
    ③ yes, for hardware sold through the campus bookstore.
    ④ yes, for hardware sold through a special campus center or outlet *not* affiliated with our bookstore.
    ⑤ yes, for hardware sold by special agreement with an off-campus dealer.
11. Does your institution *require* computer buyers to purchase software as part of the resale program?
    ① no ② yes
12. Does your institution *encourage* computer buyers to purchase software as part of the resale program?
    ① no ② yes
13. Does your institution have a special pricing or resale agreement with one or more *software* vendors?
    ① no, we do not have a software resale program.
    ② no, we do not have a special discount program although we do sell software through an on-campus facility.
    ③ yes, for software sold through the campus bookstore.
    ④ yes, for software sold through a special campus center or outlet *not* affiliated with our bookstore.
    ⑤ yes, for software sold by special agreement with an off-campus dealer.
14. Does your institution have a written policy regarding the *duplication of copyrighted software/software piracy?*
    ① no ② no, but under development ③ yes (effective date: _____)

C. Academic & Instructional Computing Policies and Procedures

15. Does your campus have a formal plan for integrating desktop computers into the curriculum?
    ① no ② yes
16. Does your campus have one or more formal projects for developing desktop instructional software/courseware?
    ① no ② yes
17. Does your campus provide any formal support or assistance (e.g., funding, release time, technical assistance) to help faculty who wish to develop *instructional* software/courseware?
    ① no ② yes
18. Does your campus provide any formal support or assistance (e.g., funding, release time, technical assistance) to assist faculty who may wish to develop software to assist their *research*?
    ① no ② yes
19. Does your campus have a policy or program for rewarding courseware development or providing incentives for faculty to develop instructional software/courseware?
    ① no ② yes
20. Does your campus have a royalty-sharing program for faculty who develop instructional software/courseware using campus resources and/or staff?
    ① no ② yes
21. Does your campus maintain a library of academic courseware for faculty review and evaluation?
    ① no ② yes
22. Does your campus have a technology resource center that focuses on the instructional use of information technology?
    ① no ② yes
23. Does your campus have one or more agreements or licenses for on-campus duplication and distribution of desktop computer software products?
    ① no ② yes
24. Does your campus have a formal plan for using the Internet and WWW resources in instruction?
    ① no ② yes
25. Does your campus have a formal plan for using the Internet and WWW resources in distance education?
    ① no ② yes
26. Does your campus have a formal plan for using the Internet and WWW to promote itself to off-campus audiences (e.g., alumni, prospective students)?
    ① no ② yes
27. Does your institution have a formal program to recognize and reward the use of information technology as part of the routine faculty review and promotion process?
    ① no ② yes
28. Does your institution have strategic plan for the use of information technology?
    ① no ② yes ③ currently preparing a strategic plan for IT

please go on to the next page ➨

D. Computing for Disabled Students

29. How would you describe the organizational arrangements for providing computer access for disabled end-users?
    - ① *centralized* access, through main and/or departmental computer centers.
    - ② *segmented* access, through a special office specifically charged to assist disabled end-users.
    - ③ *mixed* access, through both a special office and also through main and/or departmental computer centers.
    - ④ *general access*, with no formal policy or procedure(s) for specifically serving disabled students.

30. Is your campus currently reviewing the computing needs of disabled students?
    - ① no, and we have no plans to do so in the next year or so.
    - ② no, because we recently completed this type of review.
    - ③ yes, a review is now underway.
    - ④ yes, a review is planned for the coming academic year (1996-1997).

E. Future Issues Affecting Campus Computing

31. As you think about the future of computing and information technology at your institution, please indicate how *important* you see the following items in the overall campus computing/information technology environment and IT policy and planning over the next 2-3 years.

	Not Important						*Very Important*
Operating System/Interface/Development							
MS-DOS	①	②	③	④	⑤	⑥	⑦
Windows 3.x	①	②	③	④	⑤	⑥	⑦
Windows/NT	①	②	③	④	⑤	⑥	⑦
Windows '95	①	②	③	④	⑤	⑥	⑦
OS/2 Warp	①	②	③	④	⑤	⑥	⑦
Macintosh	①	②	③	④	⑤	⑥	⑦
UNIX	①	②	③	④	⑤	⑥	⑦
Solaris	①	②	③	④	⑤	⑥	⑦
Hardware							
Notebook computers	①	②	③	④	⑤	⑥	⑦
Pentium-based CPUs	①	②	③	④	⑤	⑥	⑦
Pentium Pro-based CPUs	①	②	③	④	⑤	⑥	⑦
Intel P-7-based CPU's	①	②	③	④	⑤	⑥	⑦
Macintosh computers	①	②	③	④	⑤	⑥	⑦
Alpha (DEC)-based CPUs	①	②	③	④	⑤	⑥	⑦
PowerPC (Apple/IBM)	①	②	③	④	⑤	⑥	⑦
UNIX Workstations	①	②	③	④	⑤	⑥	⑦
Sparc-based CPU's	①	②	③	④	⑤	⑥	⑦
Writable CD-ROMs							
Network/Internet computers	①	②	③	④	⑤	⑥	⑦
Writable CD-ROM	①	②	③	④	⑤	⑥	⑦
PCMCIA Cards	①	②	③	④	⑤	⑥	⑦
"Smart" Cards	①	②	③	④	⑤	⑥	⑦
Digital cameras	①	②	③	④	⑤	⑥	⑦
User Support & Service							
User support & training	①	②	③	④	⑤	⑥	⑦
Charging users for services now provided at little or no cost	①	②	③	④	⑤	⑥	⑦
Upgrading aging hardware	①	②	③	④	⑤	⑥	⑦
Upgrading aging software	①	②	③	④	⑤	⑥	⑦
Providing Internet/WWW training	①	②	③	④	⑤	⑥	⑦

	Not Important						*Very Important*
Networking & Internet/WWW							
Merging data & telecommunication networks	①	②	③	④	⑤	⑥	⑦
Connecting PC-LANS to campus-wide networks	①	②	③	④	⑤	⑥	⑦
Access to intercampus networks	①	②	③	④	⑤	⑥	⑦
Electronic mail	①	②	③	④	⑤	⑥	⑦
Network fax	①	②	③	④	⑤	⑥	⑦
Lotus Notes	①	②	③	④	⑤	⑥	⑦
Microsoft Exchange	①	②	③	④	⑤	⑥	⑦
Internet/WWW Access	①	②	③	④	⑤	⑥	⑦
Netscape Navigator	①	②	③	④	⑤	⑥	⑦
Microsoft Internet Explorer	①	②	③	④	⑤	⑥	⑦
Java (Sun Microsystems)	①	②	③	④	⑤	⑥	⑦
Inferno (Lucent/AT&T)	①	②	③	④	⑤	⑥	⑦
ATM	①	②	③	④	⑤	⑥	⑦
Resale and Distribution							
Hardware resale contracts	①	②	③	④	⑤	⑥	⑦
Software resale contracts	①	②	③	④	⑤	⑥	⑦
Software site licensing	①	②	③	④	⑤	⑥	⑦
Content site licenses	①	②	③	④	⑤	⑥	⑦
Instructional Applications and Resources							
Developing instructional software	①	②	③	④	⑤	⑥	⑦
Using instructional software in classes	①	②	③	④	⑤	⑥	⑦
Using instructional software as a supplement to classes	①	②	③	④	⑤	⑥	⑦
Computer-based classroom presentation facilities	①	②	③	④	⑤	⑥	⑦
Internet resources for instruction	①	②	③	④	⑤	⑥	⑦
CD-ROM Libraries	①	②	③	④	⑤	⑥	⑦
WWW pages for classes	①	②	③	④	⑤	⑥	⑦

32. How would you rate the "technology infrastructure" at your institution?

	poor						*excellent*
computer networks and data communication	①	②	③	④	⑤	⑥	⑦
telecommunications and phone system?	①	②	③	④	⑤	⑥	⑦
video (cable into offices, classrooms, and dorms)	①	②	③	④	⑤	⑥	⑦
user support services	①	②	③	④	⑤	⑥	⑦

please go on to the next page ➨

33. Many campuses find themselves facing enrollment shifts, reduced financial resources, and increasing costs. How is your campus addressing these issues as you view technology needs and services??

	Doing This Already	*Beginning in '96-'97 Year*	*Reviewing For '96-'97 Year*	*Decided Not To Do This*
Reducing purchases of computer technology	①	②	③	④
Charging fees to depts. and service units (e.g., networking, printing)	①	②	③	④
Charging fees to individual users (e.g., access, printing)	①	②	③	④
Requiring a computer use fee for all students	①	②	③	④
Exploring less expensive hardware options	①	②	③	④
Exploring less expensive software options	①	②	③	④
Leasing rather than buying hardware	①	②	③	④
More active recycling of older equipment to other departments and units	①	②	③	④
Vendor financing	①	②	③	④
Reducing hours in public access facilities	①	②	③	④
Reducing services (e.g., less consulting)	①	②	③	④
Reorganizing operations (e.g., combining units to coordinate staffing)	①	②	③	④
Reducing staff	①	②	③	④
Using Information Technology to to reduce instructional costs	①	②	③	④
Making greater use of student assistants to address user support needs	①	②	③	④
Offloading Internet access to commercial providers (e.g., AOL, Netcom)	①	②	③	④

F. Strategic and Budget Issues

34. As you look at the future of computing on your campus, please indicate how important the following computing/technology issues will be in the overall campus computing environment over the next 2-3 years.

	Not Important						*Very Important*
Assessing the benefits of existing investments in computing and technology resources	①	②	③	④	⑤	⑥	⑦
Clarifying goals and campus plans for technology resources	①	②	③	④	⑤	⑥	⑦
Providing incentives and rewards for faculty to support technology integration into the curriculum	①	②	③	④	⑤	⑥	⑦
Allocating campus funds to support expanded services	①	②	③	④	⑤	⑥	⑦
Faculty concerns about the benefits of computing in the curriculum	①	②	③	④	⑤	⑥	⑦
Administrative concerns about the benefits of computing in the curriculum	①	②	③	④	⑤	⑥	⑦
Developing/strengthening vendor relationships	①	②	③	④	⑤	⑥	⑦
Charging fees to students for desktop computer access	①	②	③	④	⑤	⑥	⑦
Establishing/maintaining campus-wide standards for *hardware*	①	②	③	④	⑤	⑥	⑦
Establishing/maintaining campus-wide standards for *software*	①	②	③	④	⑤	⑥	⑦
Integrating computing services with allied service departments (for example, library services)	①	②	③	④	⑤	⑥	⑦
Expanding computer networking across the campus	①	②	③	④	⑤	⑥	⑦
Operating a computer resale program for students and faculty	①	②	③	④	⑤	⑥	⑦
Developing budget mechanisms to replace aging equipment on a routine basis	①	②	③	④	⑤	⑥	⑦
Moving applications from mainframe to other/smaller platforms (workstations, PCs, etc.)	①	②	③	④	⑤	⑥	⑦
Using Internet/WWW resources in instruction	①	②	③	④	⑤	⑥	⑦
Using technology-based commercial curriculum products	①	②	③	④	⑤	⑥	⑦
Using info. technology resources to enhance our distance ed. program	①	②	③	④	⑤	⑥	⑦
Negotiating site licensing agreements with textbook publishers	①	②	③	④	⑤	⑥	⑦
Negotiating site licensing agreements with academic publishers	①	②	③	④	⑤	⑥	⑦
Sharing digital resources with other campuses/institutions	①	②	③	④	⑤	⑥	⑦

please go on to the next page ➨

35. Compared to last year (1995-96), how do you expect this year's budget (1996-97) to change with regard to academic computing overall, and to academic computing and institutional purchases of desktop computers?

	Reduced >5%	*Reduced 3-5%*	*Reduced 1-3%*	*No Change*	*Increased 1-3%*	*Increased 3-5%*	*Increased >5%*
Total academic computing budget	①	②	③	④	⑤	⑥	⑦
Purchases of desktop computers by academic computing units	①	②	③	④	⑤	⑥	⑦
All institutional purchases of desktop computers	①	②	③	④	⑤	⑥	⑦

36. Did your budget for academic computing experience a mid-year cut or recission during 1995-96?
① no ② yes If yes, by what percentage? |__|__|%

37. What is the total Academic Computing budget for 1996-97? $ |__|__|, |__|__|__|, |__|__|__|

38. Allocation of the IT/Academic Computing Budget (estimated percentages; numbers do not add to 100% because of the overlap of categories, such as personnel and user support):

|__|__|% hardware |__|__|% software |__|__|% personnel
|__|__|% content licenses |__|__|% user support |__|__|% network service/support

39. The Academic Computing Budget for this campus represents what percentage of total institutional expenditures on information technology/academic computing? |__|__| percent

H. NETWORKING

40. How important are the following issues in discussions about and planning for networking on your campus?

	Not important						*Very important*
Connecting desktop systems to share departmental or workgroup files	①	②	③	④	⑤	⑥	⑦
Connecting desktop systems to share software resources	①	②	③	④	⑤	⑥	⑦
Supporting instructional labs and clusters	①	②	③	④	⑤	⑥	⑦
*Intra*departmental mail systems on LANS	①	②	③	④	⑤	⑥	⑦
Campus-wide mail systems on a network	①	②	③	④	⑤	⑥	⑦
Linking PCs to larger computing systems	①	②	③	④	⑤	⑥	⑦
Linking PCs to your library system	①	②	③	④	⑤	⑥	⑦
Linking your campus with regional or national networks	①	②	③	④	⑤	⑥	⑦
Building a campus Gopher	①	②	③	④	⑤	⑥	⑦
Using Net Browsers (e.g., Netscape) for on-line resource access	①	②	③	④	⑤	⑥	⑦
Creating WWW pages for department use and course resources	①	②	③	④	⑤	⑥	⑦
WWW/Network access for all students	①	②	③	④	⑤	⑥	⑦
Network printing	①	②	③	④	⑤	⑥	⑦
Digital image libraries/archives	①	②	③	④	⑤	⑥	⑦

41. Would you say that network issues are more or less important than last year, or about the same?
① More important ② Less important ③ About the same

42. Does your campus have a campus-wide network backbone?
① no (go on to question #43) ② yes

43. What is the primary medium for your campus backbone?
① Fiber ③ Ethernet/Coax ⑤ Other:_____
② ISDN ④ Twisted Pair

44. What facilities and departments on your campus have access to the campus backbone?

Offices/Labs/Facilities
- ❑ Central Administration
- ❑ Student Services
- ❑ Development
- ❑ Budget/Financial offices
- ❑ Public Access Computer Labs
- ❑ Departmental Computer Labs
- ❑ Student Dormitories
- ❑ Campus Bookstore
- ❑ Registrar

Academic Departments/Units
- ❑ Biological & Physical Sciences
- ❑ Business
- ❑ Education
- ❑ Engineering
- ❑ Fine & Performing Arts
- ❑ Humanities
- ❑ Social Science
- ❑ Main Library/Library system
- ❑ Occupational Programs

please go on to the next page ➨

45. Does your campus have access to the Internet? ① no (skip to # 51) ② yes

46. Who has *individual* access to the Internet at your campus? (Please check all that apply and indicate your estimate of the percentage of each of these groups with individual access or accounts)

❑ Undergraduate Students	percent of undergraduates?	____ %
❑ Graduate Students	percent of graduate students	____ %
❑ Faculty	percent of faculty	____ %
❑ Administrators	percent of administrators	____ %
❑ Staff	percent of staff	____ %

47. Does your campus charge fees for Internet access?
① no (skip to #49) ② yes

48. Which users are assessed a fee for E-mail and Internet access?
❑ Undergraduate students ❑ Faculty ❑ Staff
❑ Graduate students ❑ Administrators

49. Do you have a campus gopher?
① No ② No, but we are planning one for this year (1996-97) ③ Yes

50. Does your campus have a WWW home page?
① No ② No, but we are planning one for this year (1996-97) ③ Yes

I. VENDOR ASSESSMENT

51. What is your assessment of the companies that sell desktop (i.e., personal computer and workstation) systems and software to the higher education market?

Ratings: ① Strongly Disagree (SD) ② Disagree ③ Agree ④ Strongly Agree (SA)

	Has Appropriate Products for Campus Users				*Understands Computing Issues Affecting My Campus*				*Will Play an Important Role in our Computing Plans for the Next 2-3 Years*			
	SD	D	A	SA	SD	D	A	SA	SD	D	A	SA
Hardware Vendors												
Apple	①	②	③	④	①	②	③	④	①	②	③	④
AT&T	①	②	③	④	①	②	③	④	①	②	③	④
Compaq	①	②	③	④	①	②	③	④	①	②	③	④
DEC (Digital)	①	②	③	④	①	②	③	④	①	②	③	④
Dell	①	②	③	④	①	②	③	④	①	②	③	④
Gateway 2000	①	②	③	④	①	②	③	④	①	②	③	④
Hewlett Packard (HP)	①	②	③	④	①	②	③	④	①	②	③	④
IBM	①	②	③	④	①	②	③	④	①	②	③	④
Packard Bell	①	②	③	④	①	②	③	④	①	②	③	④
Silicon Graphics	①	②	③	④	①	②	③	④	①	②	③	④
Sun Microsystems	①	②	③	④	①	②	③	④	①	②	③	④
Toshiba	①	②	③	④	①	②	③	④	①	②	③	④
Texas Instruments	①	②	③	④	①	②	③	④	①	②	③	④
Zenith Data Systems	①	②	③	④	①	②	③	④	①	②	③	④
Software/Network Vendors												
Adobe	①	②	③	④	①	②	③	④	①	②	③	④
Auto-Desk	①	②	③	④	①	②	③	④	①	②	③	④
Borland	①	②	③	④	①	②	③	④	①	②	③	④
Cisco Systems	①	②	③	④	①	②	③	④	①	②	③	④
Claris	①	②	③	④	①	②	③	④	①	②	③	④
Computer Associates	①	②	③	④	①	②	③	④	①	②	③	④
Lotus	①	②	③	④	①	②	③	④	①	②	③	④
Macromedia	①	②	③	④	①	②	③	④	①	②	③	④
Microsoft	①	②	③	④	①	②	③	④	①	②	③	④
Netscape	①	②	③	④	①	②	③	④	①	②	③	④
NeXT	①	②	③	④	①	②	③	④	①	②	③	④
Novell	①	②	③	④	①	②	③	④	①	②	③	④
Oracle	①	②	③	④	①	②	③	④	①	②	③	④
Symantec	①	②	③	④	①	②	③	④	①	②	③	④
SPSS	①	②	③	④	①	②	③	④	①	②	③	④
WordPerfect (Corel)	①	②	③	④	①	②	③	④	①	②	③	④

please go on to the next page ➨

J. Organization of Campus Computing and Technology Units

52. Is your campus part of a multicampus system with shared computing resources: ① no ② yes

53. Academic and administrative computing on your campus are: ① separate units ② one single unit

54. Has your institution reorganized academic or administrative computing within the past two years?
Academic Computing ① no ② yes Administrative Computing ① no ② yes

55. Do you anticipate a reorganization of academic or administrative computing within the next two years?
Academic Computing ① no ② yes Administrative Computing ① no ② yes

56. How does your campus coordinate academic and administrative computing operations? The heads of each unit report to:

Academic Computing	*Administrative Computing*
① president	① president
② provost (chief academic officer)	② provost (chief academic officer)
③ vice provost, (e.g., vp for info. svcs)	③ vice provost, (e.g., vp for administration)
④ dean	④ dean

57. Is your chief academic officer directly involved (or interested) in campus planning for instructional technology?
① not interested or involved ② interested ③ somewhat involved ④ directly involved

58. How does your institution deal with the "life cycle" issues affecting the institutional purchase (and upgrading/replacement) of desktop computers for faculty, classrooms, clusters, and labs?
① Most institutional purchases of desktop systems are acquired through a special one-time allocation or appropriation.
② Although we generally purchase equipment on a one-time allocation, we are developing a budget mechanism (or budget planning model) to help us routinely "acquire and retire" new technology.
③ We have a budget mechanism (or budget planning model) to help us routinely "acquire and retire" new technology.

59. From your perspective, how well does your institution prepare your students (i.e., undergraduates) for the technology skills they will need and technology challenges they will encounter over the next decade?

Academic Field/Program	*Poor*				*Excellent*
biological & physical sciences	①	②	③	④	⑤
business	①	②	③	④	⑤
education	①	②	③	④	⑤
engineering	①	②	③	④	⑤
fine & performing arts	①	②	③	④	⑤
humanities	①	②	③	④	⑤
social science	①	②	③	④	⑤
occupational programs	①	②	③	④	⑤

60. From your perspective, how well prepared are the faculty at your institution to use technology as a resource for instruction and scholarship?

	For Instruction					*For Scholarship & Research*				
	Poor				Excellent	Poor				Excellent
biological & physical sciences	①	②	③	④	⑤	①	②	③	④	⑤
business	①	②	③	④	⑤	①	②	③	④	⑤
education	①	②	③	④	⑤	①	②	③	④	⑤
engineering	①	②	③	④	⑤	①	②	③	④	⑤
fine & performing arts	①	②	③	④	⑤	①	②	③	④	⑤
humanities	①	②	③	④	⑤	①	②	③	④	⑤
social science	①	②	③	④	⑤	①	②	③	④	⑤
occupational programs	①	②	③	④	⑤	①	②	③	④	⑤

61. From your perspective, how well prepared are faculty and academic units to use the Internet and WWW as a resource for curriculum and instruction?

Academic Field/Program	*Poor*				*Excellent*
biological & physical sciences	①	②	③	④	⑤
business	①	②	③	④	⑤
education	①	②	③	④	⑤
engineering	①	②	③	④	⑤
fine & performing arts	①	②	③	④	⑤
humanities	①	②	③	④	⑤
social science	①	②	③	④	⑤
occupational programs	①	②	③	④	⑤
Overall Campus Preparation	①	②	③	④	⑤

please go on to the next page ➨

K. USES OF INFORMATION TECHNOLOGY

62. Please indicate the degree to which you agree or disagree with the following statements.
Ratings: ① Strongly Disagree (SD) ② Disagree ③ Agree ④ Strongly Agree (SA)

	SD	D	A	SA
Faculty here believe technology can enhance their classes and student learning.	①	②	③	④
Faculty have unreasonable expectations about user support services.	①	②	③	④
My president or provost has serious questions about the amount of money we are spending to support computing and information technology.	①	②	③	④
Technology has done much to improve instruction on my campus.	①	②	③	④
CD-ROMs will be an important source for content and instructional resources for our faculty and students over the next 2-3 years.	①	②	③	④
The WWW will be an important source for content and instructional resources for our faculty and students over the next 2-3 years.	①	②	③	④

63. The *single most important* information technology issue confronting my institution over the next two or three years is: *(mark only one)*

- ❑ Providing universal access to the Internet
- ❑ Providing adequate user support
- ❑ Assisting faculty integrate technology into instruction
- ❑ Financing the replacement of aging hardware/software
- ❑ Expanding/enhancing the campus network
- ❑ Licensing (digital) content from publishers
- ❑ Using IT effectively in distance education
- ❑ Restructuring/reorganizing IT service units (computing, libraries, etc.).

L. CURRENT MICROCOMPUTER AND DESKTOP COMPUTER FACILITIES

64. What was the total *headcount* enrollment on your campus as of Spring 1996? |__|__|__|__|__|

65. What is your *best estimate* of the total number of *institutionally-owned* desktop computers and workstations on your campus as of May, 1996? (Please include systems in faculty offices and in labs, clusters, classrooms, residence halls, etc.) Desktop computers |__|__|__|__|__| Unix Workstations |__|__|__|__|__|

66. What is your *best estimate* of the percentage of institutionally-owned machines (in both offices and campus labs) that are connected to your campus network or a department network? |__|__|%

67. What is your *best estimate* of the total number of *personally-owned* desktop computers used on your campus as of May, 1996? (Include personally purchased systems owned by students and faculty.) |__|__|__|__|__|

68. What is your *best estimate* of the proportion of individuals in your campus community who have or own desktop computers? % students |__|__| % faculty |__|__| % administrators/staff |__|__|

69. What is your *best estimate* of the proportion of individuals in your campus community who have or own CD-ROMs for their computers? (*example:* 20% means that 20 percent of the computer owners/users have CD-ROMs for their systems). % students |__|__| % faculty |__|__| % administrators/staff |__|__|

70. Estimated total number of desktop computers (PCs and workstations) purchased by:

	1995-96	1996-97
students	|__|__|__|__|	|__|__|__|__|
faculty (personal & office/project use)	|__|__|__|__|	|__|__|__|__|
administrators/staff (personal & office/project use)	|__|__|__|__|	|__|__|__|__|
campus labs, clusters & other instructional use	|__|__|__|__|	|__|__|__|__|

71. Total number of *desktop computer labs, clusters,* and *classrooms* on your campus as of May, 1996? |__|__|__|

72. How many of these computer labs/clusters/classrooms are specifically dedicated for use by individual departments or units (e.g., writing program, engineering, social science)? |__|__|__|

73. Total number of *desktop computers and workstations* in *all* the labs/classrooms/clusters on your campus as of May, 1996 Desktop Computers |__|__|__|__|__| Unix Workstations |__|__|__|__|__|

74. Percentage of computers in *all* the labs/classrooms/clusters on your campus that have CD-ROMs? |__|__|

75. What is your *best estimate* of the proportion/percentage of classes that use various kinds of computer and information technology resources:

- |__|__| computer-based classrooms or labs
- |__|__| computer-based simulations or exercises
- |__|__| presentation handouts
- |__|__| CD-ROM-based materials
- |__|__| electronic mail
- |__|__| commercial courseware
- |__|__| interactive data analysis and display
- |__|__| mulumedia
- |__|__| Internet resources (from off-campus sources)
- |__|__| WWW pages for class materials & resources

THANK YOU FOR YOUR ASSISTANCE!

PLEASE FOLD AND MAIL IN THE ENCLOSED POSTAGE-PAID ENVELOPE

Appendix C

Campuses Participating in the 1996 Campus Computing Survey

Abilene Christian University, TX
Alabama Southern Comm. College,
Albertson College of Idaho, ID
Albertus Magnus College, CT
Albright College, PA
Alfred University, NY
Allen County Community College, KS
Alma College, MI
Alpena Community College, MI
Alvernia College, PA
Alverno College, WI
Amarillo College, TX
American River College, CA
Ancilla College, IN
Angelina College, TX
Anson Community College, NC
Appalachian State University, NC
Aquinas Junior College, MA
Arapahoe Community College, CO
Arkansas State University, AR
Asbury College, KY
Ashland University, OH
Atlantic Community College, NJ
Augusta State University, GA
Augustana College, SD
Augustana College, IL
Aurora University, IL
Austin Community College, MN
Averett College, VA
Avila College, MO
Azusa Pacific University, CA

Bainbridge College, GA
Beaver College, PA
Belleville Area College, IL
Belmont Abbey College, NC
Beloit College, WI
Bemidji State University, MN
Benedict College, SC
Benedictine College, KS
Bethany College, KS
Bethany Lutheran College, MN
Bethel College, MN
Big Bend Community College, WA
Biola University, CA
Birmingham Southern College, AL
Blackburn College, IL
Bladen Community College, NC
Blinn College, TX
Bloomfield College, NJ
Bloomsburg University, PA
Blue Mountain College, MS
Bluefield College, VA
Bluefield State College, WV
Boise State University, ID
Bowling Green State University, OH
Brandeis University, MA
Briar Cliff College, IA
Brigham Young University, UT
Bristol Community College, MA
Brown University, RI
Brunswick College, GA
Brunswick Community College, NC
Buena Vista University, IA
Burlington County College, NJ
Butler County Community College, KS

Cabrillo College, CA
Cabrini College, PA
Caldwell College, NJ
Calif State Univ., Fullerton
Calif State Univ., Los Angeles
Calif State Univ., Stanislaus
Calif State Univ., Fresno
Calif State Univ., Sacramento
California Institute of Technology
California Lutheran University, CA
Carnegie Mellon University, PA
Carteret Community College, NC
Carthage College, WI
Case Western Reserve University, OH
Casper College, WY
Catawba College, NC
Cayuga County Community College, NY
Cedar Crest College, PA
Cedarville College, OH
Centenary College of Louisiana, LA
Central Community College-Platte Campus, NE
Central Lakes College, MN
Cerro Coso Community College, CA
Chadron State College, NE
Chaffey College, CA
Chatham College, PA
Chattahoochee Valley State Comm. College, AL
Chestnut Hill College, PA
Chowan College, NC
Cisco Junior College, TX
Clackamas Community College, OR
Clark College, GA
Clark State Community College, OH
Clayton State College, GA
Cleveland Community College, NC
Cleveland State Community College, TN
Cochise College, AZ
Coe College, IA
Coffeyville Community College, KS
Colby Community College, KS
Colby-Sawyer College, NH
Colgate University, NY
College of Charleston, SC
College of Mount Saint Vincent, NY
College of Mount St. Joseph, OH
College of Southern Idaho, ID
College of St. Catherine, MN
College of St. Scholastica, MN
College of St. Thomas, MN
College of the Atlantic, ME
College of the Canyons, CA
College of Wooster, OH
Colorado Northwestern Comm. College
Colorado Technical College, CO
Columbia College, CA
Columbia University, NY
Columbus University, GA
Comm. College of Beaver County, PA
Concordia College, NY
Concordia College, AL
Concordia College, MN
Connors State College, OK
Copiah-Lincoln Comm. College, MS
Cornell College, IA
Corning Community College, NY
Covenant College, GA
Crafton Hills College, CA
Creighton University, NE
Crowder College, MO
CUNY, Hostos Community College
CUNY, Hunter College
CUNY, LaGuardia Comm. College
CUNY, Manhattan Comm. College
CUNY, City College
CUNY, York College
Curry College, MA
Cypress College, CA

D'Youville College, NY
Dalton College, GA
Danville Community College, VA
Dartmouth College, NH
Darton College, GA
Davenport College, MI
Davis & Elkins College, WV
Defiance College, OH
Delgado Community College, LA
DePauw University, IN
Drew University, NJ
Dutchess Community College, NY

East Texas State University, TX
East-West University, IL
Eastern Mennonite College, VA
Eastern Montana College, MT
Eastern New Mexico University-Roswell, NM

Eastern Shore Community College, VA
Eastern Wyoming College, WY
Eckerd College, FL
Edison State Community College, OH
El Paso Community College, TX
Elizabeth City State University, NC
Elizabethtown College, PA
Ellsworth Community College, IA
Elon College, NC
Everett Community College, WA
Evergreen State College, WA

Fergus Falls Community College, MN
Ferris State University, MI
Florence-Darlington Technical Coll., SC
Florida Institute of Technology, FL
Florida Memorial College, FL
Fontbonne College, MO
Fordham University, NY
Forsyth Technical Comm. College, NC
Fort Scott Community College, KS
Franklin and Marshall College, PA
Franklin College of Indiana, IN
Frederick Community College, MD
Free Will Baptist Bible College, TN
Freed-Hardeman College, TN
Front Range Community College, CO
Frostburg State University, MD

Gaston College, NC
Gavilan College, CA
Genesee Community College, NY
George Fox College, OR
George Mason University, VA
Georgetown University, DC
Georgia Institute of Technology
Georgia Southern University
Gogebic Community College, MI
Gordon College, MA
Graceland College, IA
Grand Rapids Junior College, MI
Grays Harbor College, WA
Green Mountain College, VT
Gustavus Adolphus College, MN
Gwynedd-Mercy College, PA

Hagerstown Junior College, MD
Hamilton College, NY
Hampden-Sydney College, VA
Hanover College, IN
Harris-Stowe State College, MO
Harrisburg Area Community College, PA
Hartnell College, CA
Hastings College, NE
Hawaii Pacific University
Henry Ford Community College, MI
Herkimer County Comm. College, NY
Highland Community College, KS
Hilbert College, NY
Hobart and William Smith College, NY
Hollins College, VA
Horry-Georgetown Technical Coll., SC
Houghton College, NY
Housatonic Community College, CT
Howard Community College, MD
Howard Payne University, TX
Huntingdon College, AL

Illinois Institute of Technology
Illinois Valley Community College
Indian River Community College, FL
Indiana Institute of Technology
Indiana State University
Indiana University-Purdue University at Indianapolis
Indiana University East
Indiana University Southeast
Indiana University-Bloomington
Indiana University-Purdue University at Fort Wayne
Indiana Vocational Technical College-Lafayette
Indiana Wesleyan University
Iowa Lakes Community College, IA
Isothermal Community College, NC
Itawamba Community College, MS
Ithaca College, NY
Ivy Tech State College, IN

Jackson Community College, MI
Jacksonville College, TX
Jacksonville State University, AL
James Madison University, VA
James Sprunt Community College, NC
Jarvis Christian College, TX
Jefferson College, MO
Jefferson State Junior College, AL
John Brown University, AR
John C. Calhoun State Community College, AL
John Carroll University, OH
Johnson & Wales University, RI
Joliet Junior College, IL
Judson College, IL

Kansas State University
Kaskaskia College, IL
Keene State College, NH
Kellogg Community College, MI
Keystone College, PA
Kirkwood Community College, IA
Lake Forest College, IL
Lakeland College, WI
Lakeshore Technical College, WI
Lamar University, TX
Lander University, SC
Lee College, TN
Livingstone College, NC
Lock Haven Univ. of Pennsylvania, PA
Lord Fairfax Community College, VA
Louisiana College, LA
Louisiana State Univ., Shreveport
Louisiana State University at Eunice
Louisiana Tech University, LA
Lower Columbia College, WA

Macalester College, MN
MacMurray College, IL
Madonna University, MI
Manchester College, IN
Manhattan College, NY
Manor Junior College, PA
Mansfield Univ. of Pennsylvania, PA
Marion Military Institute, AL
Marist College, NY
Marshalltown Community College, IA
Martin Community College, NC
Martin Methodist College, TN
Mary Washington College, VA
Marylhurst College, OR
Maryville University, Saint Louis, MO
Master's College, CA
Mayland Community College, NC
Mayville State University, ND
McKendree College, IL
Medaille College, NY
Memphis College of Art, TN
Merced College, CA
Mercy College, NY
Miami University, OH
Mid-State Technical College, WI
Middle Tennessee State University, TN
Middlebury College, VT
Midlands Technical College, SC
Midway College, KY
Midwestern State University, TX
Millersville University of Pennsylvania
Milligan College, TN
Milwaukee Area Technical College, WI
Minneapolis Community College, MN
Mississippi College, MS
Mississippi Delta Junior College
Mississippi Valley State University
Missouri Baptist College
Missouri Southern State College
Mitchell College, CT
Mitchell Community College, NC
Moberly Area Community College, MO
Modesto Junior College, CA
Monmouth College, IL
Montana College of Mineral Science and Technology, MT
Montclair State College, NJ
Moody Bible Institute, IL
Moraine Valley Community College, IL
Morton College, IL
Mount Ida College, MA
Mount Marty College, SD
Mount Olive College, NC
Mount Vernon Nazarene College, OH
Mount Wachusett Comm. College, MA
Mt. Hood Community College, OR
Mt. San Jacinto College, CA
Muskingum College, OH

Nash Community College, NC
Navarro College, TX
Nebraska College of Business, NE
Nebraska College of Technical Agriculture, NE
Nebraska College of Technical Agriculture, NE
NEI College of Technology, MN
Neosho County Community College, KS
New College, Univ. of South Florida
New Hampshire College, NH

New Mexico Inst. of Mining & Technology
New Mexico Junior College
New Mexico State University
New Mexico State University-Alamogordo
New Mexico State Univ.- Carlsbad
Nicholls State University, LA
North Adams State College, MA
North Carolina Wesleyan College
North Central Missouri College
North Dakota State University
North Harris County College District, TX
North Hennepin Comm. College, MN
North Shore Community College, MA
Northampton County Area Community College, PA
Northeastern State University, OK
Northeastern University, MA
Northern Arizona University
Northern Michigan University
Northwest College of the Assemblies of God, WA
Northwest Missouri State Univ.
Northwest Nazarene College, ID
Northwestern Business College, IL
Norwalk Community College, CT
Norwich University, VT
Nyack College, NY

Oakland University, MI
Ocean County College, NJ
Ohio Northern University
Oklahoma Baptist University
Olivet Nazarene University, IL
Oral Roberts University, OK
Oregon Institute of Technology
Otero Junior College, CO
Our Lady of Holy Cross College, LA
Oxnard College, CA

Pacific Lutheran University, WA
Palm Beach Atlantic College, FL
Palo Alto College, TX
Paris Junior College, TX
Pasadena City College, CA
Pasco-Hernando Community College, FL
Passaic County Community College, NJ
Pennsylvania College of Technology
Pennsylvania State Univ. at Harrisburg
Pennsylvania State University , Allentown Campus
Pennsylvania State University, Wilkes-Barre Campus
Pennsylvania State University ,Worthington Scranton Campus
Pennsylvania State University, York Campus
Piedmont Community College, NC
Pikeville College, KY
Pittsburg State University, KS
Potomac State College of West Virginia University, WV
Princeton University, NJ
Purdue University, Calumet, IN

Queen of the Holy Rosary College, CA
Rancho Santiago College, CA
Randolph-Macon College, VA
Randolph-Macon Woman's College, VA
Ranger College, TX
Rappahannock Community College, VA
Regis University, CO
Reinhardt College, GA
Rhodes College, TN
Richard Bland College, VA
Ripon College, WI
Roane State Community College, TN
Robert Morris College, Chicago, IL
Rochester Institute of Technology, NY
Rockhurst College, MO
Roger Williams University, RI
Rollins College, FL
Rust College, MS
Rutgers University-Newark, NJ

Saginaw Valley State University, MI
Saint Charles County Community College, MO
Saint Francis College, PA
Saint John's University, MN
Saint Martin's College, WA
Saint Mary-of-the-Woods College, IN
Saint Meinrad College, IN
Saint Michael's College, VT
Salem-Teikyo University, WV
San Jacinto College-South Campus, TX
San Juan College, NM
Santa Fe Community College, NM
Santa Monica College, CA
Schreiner College, TX
SE College of the Assemblies of God, FL
Seattle Central Community College, WA
Seminole Junior College, OK
Seton Hall University, NJ
Sheldon Jackson College, AK
Sheridan College, WY
Shimer College, IL
Shippensburg University of Pennsylvania
Shorter College, GA
Silver Lake College, WI
Skagit Valley College, WA
Skidmore College, NY
Slippery Rock University of Pennsylvania, PA
Snead State Junior College, AL
South Carolina State University
South Georgia College
South Plains College, TX
South Puget Sound Comm. College, WA
Southeast Community College, Beatrice Campus, NE
Southeast Community College, Milford Campus, NE
Southeast Missouri State University
Southeastern Baptist Theological Seminary, NC
Southeastern Community College, NC
Southeastern Louisiana University
Southern Arkansas University

Southern Arkansas University Tech.
Southern California College
Southern College, FL
Southern Illinois Univ-Carbondale, IL
Southern Methodist University, TX
Southern Nazarene University, OK
Southern Oregon State College
Southern Wesleyan University, SC
Southwest Missouri State Univ.
Southwest Texas State University
Southwestern Adventist College, TX
Southwestern Michigan College
Southwestern Oklahoma State Univ.
Spokane Falls Community College, WA
St. Catharine College, KY
St. Cloud State University, MN
St. Francis College, NY
St. John's College, NM
St. Joseph's College, NY
St. Louis Community College at Meramec, MO
St. Mary's Univ. of San Antonio, TX
St. Olaf College, MN
St. Paul Technical College, MN
Standing Rock College, ND
Stephen F. Austin State University, TX
Stephens College, MO
Sterling College, KS
Stockton State College, NJ
Stonehill College, MA
Stratton College, WI
Sullivan County Comm. College, NY
SUNY College of Agriculture and Technology
SUNY College at New Paltz
SUNY College of Environmental Science & Forestry
SUNY College of Technology,
SUNY College of Technology, Farmingdale
SUNY College of Technology at Canton
SUNY College of Technology at Alfred
SUNY-Westchester Community College
Suomi College, MI
Susquehanna University, PA

Taft College, CA
Tarleton State University, TX
Tarrant County Junior College, TX
Temple Junior College, TX
Tennessee Temple University
Texas A&I University
Texas A&M University
Texas Christian University
Texas Lutheran College
Texas Southern University
Texas Wesleyan University
Thomas A. Edison State College, NJ
Thomas More College, KY
Three Rivers Community/Tech. College, Mohegan Campus, CT
Transylvania University, KY
Tri-County Community College, NC
Tri-County Technical College, SC
Tri-State University, IN

Trinity Christian College, IL
Trinity International University, IL
Trinity University, TX
Troy State University at Dothan, AL
Truman State University, MO

Ulster County Community College, NY
Umpqua Community College, OR
Union College, NY
Union County College, NJ
Union University, TN
United States Air Force Academy, CO
United States Coast Guard Academy, CT
United States Naval Academy, MD
University of Alabama
University of Alabama-Birmingham
University of Alaska-CCREE
University of Alaska Southeast, Ketchikan Campus
University of Arizona
University of Baltimore, MD
University of Bridgeport, CT
University of Central Florida
University of Central Texas
University of Charleston, WV
University of Cincinnati,OH
University of Dallas, TX
University of Denver, CO
University of Detroit, MI
University of Dubuque, IA
University of Evansville, IN
University of Georgia, GA
University of Hawaii-West Oahu, HI
University of Hawaii-Windward Community College
University of Houston-Downtown, TX
University of Idaho, ID
University of Illinois, Champaign-Urbana
University of Iowa
University of Kansas
University of Kentucky
University of Kentucky, Maysville Community College
University of Kentucky, Somerset Community College
University of Maine at Presque Isle
University of Massachusetts-Amherst
University of Miami, FL
University of Michigan-Dearborn
University of Minnesota, Crookston
University of Minnesota, Duluth
University of Minnesota, Morris
University of Missouri-Kansas City
University of Missouri-Rolla
University of Missouri-Saint Louis
University of Nevada-Las Vegas
University of New Mexico, NM
University of New Mexico-Gallup
University of New Orleans, LA
University of North Carolina-Wilmington
University of North Florida
University of North Texas
University of Notre Dame, IN
University of Pennsylvania, PA
University of Pittsburgh at Bradford, PA
University of Pittsburgh at Titusville
University of Portland, OR
University of Puget Sound, WA
University of Redlands, CA
University of Rhode Island
University of Richmond, VA
University of Rio Grande, OH
University of Science and Arts of Oklahoma
University of Scranton, PA
University of South Carolina at Union
University of South Dakota
University of South Florida
University of Southern California
University of Southern Colorado
University of Southern Indiana
University of Southern Mississippi
University of Southwestern Louisiana
University of Tennessee, Chatanooga
University of Texas-Dallas, TX
University of the Ozarks, AR
University of the South, TN
University of Utah
University of Virginia-Main Campus
University of Washington
University of Wisconsin-Fond du Lac
University of Wisconsin Center-Manitowoc County
University of Wisconsin Center-Marinette County
University of Wisconsin Center-Richland
University of Wisconsin Center-Sheboygan County
University of Wisconsin Center-Washington County
University of Wisconsin Center-Waukesha County
University of Wisconsin-Eau Claire
University of Wisconsin-Madison
University of Wisconsin-Parkside
University of Wisconsin-Stevens Point
Utah Valley Community College

Valley City State University, ND
Vanderbilt University, TN
Vassar College, NY
Ventura College, CA
Vermilion Community College, MN
Villa Maria College of Buffalo, NY
Vincennes University-Jasper Center, IN
Virginia Military Institute
Virginia Polytechnic Inst & State Univ.

Wake Forest University, NCWaldorf College, IA
Walsh University, OH
Warner Southern College, FL
Warren Wilson College, NC
Washington and Jefferson College, PA
Waubonsee Community College, IL
Waycross College, GA
Webber College, FL
Webster University, MO
Wenatchee Valley College, WA
Wentworth Military Academy and Junior College, MO
West Coast University, CA
West Hills College, CA
West Liberty State College, WV
West Los Angeles College, CA
West Texas A&M University
Western Oregon State College
Western Piedmont Comm. College, NC
Western State College of Colorado
Western Texas College, TX
Western Washington University, WA
Western Wisconsin Technical College
Westminster College, PA
Whatcom Community College, WA
Whitman College, WA
Whittier College, CA
Wichita State University, KS
Willamette University, OR
William Jennings Bryan College, TN
Wilmington College, OH
Winston-Salem State University, NC
Wisconsin Lutheran College, WI
Woodbury University, CA
Worcester State College, MA
Worthington Community College, MN

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